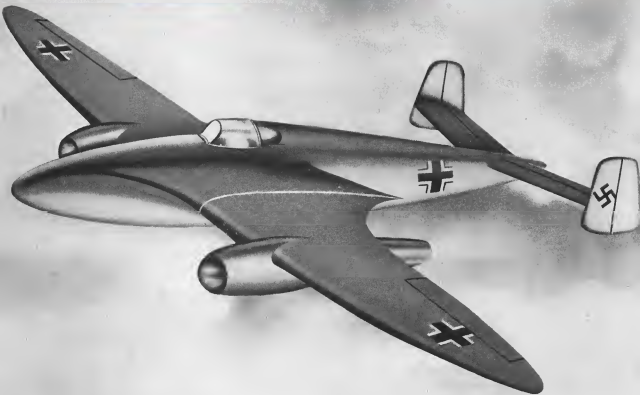


# Aviation News

McGraw-Hill Publishing Company, Inc.

JANUARY 8, 1946



**New German Jet Job:** Now reported in service with the Luftwaffe is the Heinkel He 280, shown in this drawing from Flight. It is powered by two BMW 003 gas-turbine units and is said to be more or less experimental, although on operational service.

## **Allocations Abroad Stress U. S. Aims in World Air**

Assignment of surplus aircraft to three European neutrals recalls landing rights grants and signing of Five Freedoms agreement.....Page 7

## **CAB Asks Power to Restrict Schedules, Equipment**

Report to Senate Commerce Committee declares new and broadened philosophy of carrier certification is necessary.....Page 32

## **Lines Asked Why Mail Pay Should Not Be Cut**

U. S. proposes to reduce airmail compensation of American, TWA, United and Eastern from 60 cents a ton-mile to 32-cent basis.....Page 39

## **Surplus Liner Problem May Be Easier Than Expected**

New reports from Europe and revised estimate of needs of services in Pacific indicate extremely high utilization and attrition rate.....Page 11

## **Tenn. Pioneering Made Possible by 7c Plane Gas Tax**

Levy used exclusively for support of airports and promotion of aviation; state now has 50 fields compared with 19 in 1938.....Page 14

## **Plane Production to Top All-Time Record Set in 1944**

Last year's dollar volume of approximately \$19,400,000,000 maintains aircraft manufacturing in U. S. in position as largest industry in world....Page 21



**"A-C transformer-type welders?  
I'd buy 'em from  
TRANSFORMER HEADQUARTERS!"**

**"Who do you mean, Steve?"**

**"Why, Westinghouse, of course. Any a-c welder is built around a transformer, and Westinghouse has been building all types of transformers longer than anybody else—so I'd suggest we get 'em from the outfit that's recognized as transformer headquarters."**

A-c welders are essentially transformers. That's why Westinghouse A-C Welders offer the benefit of more years of experience in the designing and building of this type of equipment than any other welder... because Westinghouse built the first successful commercial transformers.

A-c electrodes, too, have been developed, tested and proved by Westinghouse to meet welding requirements that range from the lightest welding to the heaviest. In fact, Westinghouse A-C Welders and Electrodes provide the right combination for faster, more economical industrial welding—maintenance, fabrication or construction.

Westinghouse A-C Welders are available in a complete range of ratings from 100 to 3500 amperes. Ask for catalog B-3136 giving full details. Westinghouse Electric & Manufacturing Co., Box 568, Pittsburgh 30, Pa.

**Westinghouse**

**A-C WELDERS and ELECTRODES**



THE AVIATION NEWS

## Washington Observer

**LID IS ON**—Pressure currently being exerted to obtain greater concentration of effort on war production will put the lid on aircraft talk of commercial designs and post-war plans. Statistical reports on volume of war production will predominate.

**FIRST HAND VIEW**—Latest of production efforts to be given tour of the fighting front by the War Department as Harold G. Boush, now in Europe, is being shown tremendous destruction of war material and in general the same viewpoint given to James F. Byrnes early in the fall. Through these visits to the front, the War Department hopes to convince production leaders of the realism of their requirements and schedules.

**MATERIALS AND PRIORITIES WITHDRAWAL**—WPB's Priority Regulation No. 26, which threatens to withdraw all priorities and material allocations from manufacturers failing to comply with War Manpower Commission hiring and control policies, created considerable controversy within WPB, WMC and the Byrnes office before it finally was issued. Opposition was heavy, with most of the opponents claiming it was unworkable. Whether the sanctions contained in the regulation will ever be generally applied is doubtful. Like many other government moves, it is intended to ward psychological pressure rather than enforce strict compliance.

**ADD LABOR MEMBER**—The WPB has as yet made no official announcement of the action, but the Production Resources Committee at its last meeting voted unanimously to add a labor representative to the Area Production Agency Committee. Proposal is believed to have originated in the office of Joseph Korman, vice-chairman for labor production, but most surprising feature of the move was lack of opposition. Within the next few weeks the regional directors of WMC will be instructed to create a labor production representative to serve as a "full member" of each of the APAC groups.

**NAVAL PILOT STEP-UP**—Increased pilot training activity of the Navy is being emphasized, based on personnel facilities over a period of two years ahead. Cadets receiving their training and men taken from the ranks will not be ready for combat service for a year and a half or more. Stopped up training is not

the result of heavy attrition, but is designed to meet needs, as they appear now, of two years from now. Had the pilot training program been continued at its initial rate in the face of "low" attrition rates, the Navy now would have had a tremendous surplus of pilots it couldn't use.



Armament Reloading a Mustang Bomber

**FOUNDER TRANSPORT PICTURE**—Latest allocations of surplus transport planes are expected to be the last until the current war aviation season. A few more drizzle through, but by and large no quantity releases can be expected unless the picture changes rapidly.

**NAVY FIGHTER SPEEDUP**—Return of the F4U "Corsair" to carrier duty with the fleet emphasizes the recent statements that better Japanese aircraft are being met in the Pacific. The "Corsair" will match any land-based fighter now in general service. Rear Admiral D. C. Ramsey revealed that every effort is being made to rush "into large scale production several new types of fighting aircraft which now show every promise of maintaining the technical lead which we have held over the enemy in the Pacific since the beginning of the war." He said there is evidence of a general improvement in the char-

# WARM HANDS work faster!



In hangars, shops, flight offices, warehouses, factories and hard-to-heat corners of any type of building, Guiberson clean their hands will pour out the heat for living in comfort, for working in comfort. Given quick heat, it's simple to operate and burn cleanly.

**GUIBERSON MODEL R-101**

**BURNS No. 1 DISTILLATE or KEROSENE**

Designed around one of America's most efficient heating units, the Guiberson Model R-101 is low in cost and exceptionally economical. Burns only No. 1 distillate or kerosene. Model R-101 Oil Heating Unit now available for custom use in limited quantities.

**Guiberson USA**  
THE GUIBERSON CORPORATION  
GUIBERSON DIESEL ENGINE COMPANY  
DALLAS, TEXAS

## AVIATION NEWS

### THE STAFF

GEORGE W. FEEL Editor  
ROBERT H. WOOD Managing Editor  
JACOB BERLIN Copy Editor  
STANLEY H. MACKER Technical Editor  
DANIEL S. WINTS II Treasurer  
MARY PAULINE PERRY Office Assistant  
WILLIAM H. KOTZ Special Correspondent  
BLAKE STEINBERGER Special Correspondent  
NORMAN V. HENRIET New York Editor  
SCOTT L. BARNETT Foreign Correspondent  
ALAN MCKENNEY Feature Writing Editor  
EUGENE MAILLARD Photo Editor  
ANDREW B. MARTIN Sales Manager

### CONTENTS

Washington  
Weather News Service  
Foreign Editor  
Air War  
Personnel  
Transportation  
Trends

PAGE

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

### THE PHOTOS

Flight Center Instrument Panel, Jan. 3, 1945. As shown in the photo, the instrument panel is a masterpiece of design and construction. It is a masterpiece of design and construction.

### Editorial Boardmembers

100-45 National Press Building  
Washington 4, D. C.

Publisher and Executive Office  
130 W. 42nd St., N. Y. 36, N. Y.

Photo Credit Office, 621 N. 3rd St., San Antonio

Copyright 1945, Vol. 3, No. 24, Published by the  
McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Printed by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

Published by the McGraw-Hill Publishing Co., Inc., New York, N. Y.

activities of Japanese aircraft recently encountered in the Philippine Campaign.

**STRAWN IN THE WIND**—Establishment of a rating of aviation machinery's rate T (gas turbines) has been authorized by Secretary of the Navy Forester.

**EXECUTIVE TRANSPORTS**—The market for executive transports is heating up as the largest plane fields in the after-the-war market. Several companies have made ventures that indicate they will be the bulk of their own ferrying of personnel. General Motors, with three new Beechcrafts now, is seeking more. Another straw in the wind is the attention given this field in the Lockheed "Stratoliner" design. Many large companies are believing their Washington offices to locate surplus small transports for their use. It may be just a war-time fling brought on by the transportation situation, but most observers feel it will continue and expand. Conventions, parades and control are big factors.

**AIR MAIL**—A material increase in air mail from month to month probably will prompt the Post Office Department to ask Congress for a supplemental air mail appropriation of several million dollars. At the time Congress author-

## Industry Observer

Despite the renewed emphasis in Washington on war production, planning, and the inherent of strong sales organizations is one of the biggest problems under the new study by all the aircraft companies which expansion competition which ex- pect to exist on non-government business after the war. The decision as to the relative positions which engineering and sales, and their organizations, will occupy in each company is the subject of spirited discussion by top executives. Speculation for strong sales staffs contend that competition will be a major factor in commercial competition. This subject is being watched closely by the industry as each company announces reorganizations and major changes.

A year ago there was strong feeling in industry and government circles that the domestic airlines could not maintain their existing passenger-load factors after a substantial number of airlines were returned by the Army, but with more than 150 ships back in commercial service the figure remains near the peak, and CAB as it is aimed show-cause order to the four major lines makes clear that it expects no important decrease in the foreseeable future.

Typical of the depression rate being placed by the airlines on returned Douglas equipment is that of United, new jets with resale value of \$10,000. Some period is designated for returned

## Washington Observer

and as increase in the annual rate, the question was raised whether the added cost would reduce the volume to a point where decreased revenue would result. Second Assistant Postmaster General Keith W. Purdon says that, regardless of the increased rate, both volume and number of pieces are on the up. An indication is also in the recently approved supplemental appropriation bill for \$11,499 to cover costs of increased personnel requirements for the annual service.

**INSUFFICIENT PRODUCTION**—There appears to have been some misapprehension of this problem and, as pointed out by Senator Nead (D-N.Y.), chairman of the special Senate committee investigating the war program in a little published statement, insufficient production in the United States is the cause of shortages of weapons and ammunition at the front and any shortage has been due, up to now, solely to transportation problems overseas. Unfortunately, as Senator Nead noted, certain news stories concerning such shortages of ammunition in the hands of our fighting men have carried the implication that the lack at the front was due to some failure of production at home. These implications, he added, were not intended and "they are not well founded."

equipment, but no residual value is contemplated. Most of the recent increases in aircraft schedules so far have affected night bombers but other types are being launched week by week.

There is movement in aircraft industry circles when War Department and AEC officials have broadly that the European war has been due to increased production troubles, and manpower losses. Actually, plane factories have been cutting back under AEC cutback orders and those as well as WPA-maintained operations have been responsible for the workers' belief that the war was won. These industry people feel the generals who made mistakes are trying to fix the blame on the home front.

Airline and government officials found Senator Bailey's letter supposedly outlining his stand on air policy one of the most convincing statements in the Capitol Hill. They think they have implied compromise of transport laws to public utilities is no relevance to monopoly are misleading and unhelpful, and that it is in the interest whether it is for or against the monopoly he describes. Local factors interpreted it both ways. What he meant by "one or two or more" companies also is doubtful. Generally, however, it appeared the Senator is wrapping a little from the "know-nothing" protection policy. General supervision seemed to be that the Senator was taking a lot of words to say that nobody can predict with any certainty what the picture actually will be when aviation legislation comes up in the new 79th Congress.



## "COMING EVENTS CAST THEIR SHADOWS . . ."

Over busy cities . . . industrial scenes . . . rolling farm country . . . wild, wooded regions, the shadows of rotary wings will be familiar sights . . . as helicopters take their place in future air transportation. Today, details of helicopter advances in design and in performance are not available to the public . . . but the progress made during the war, under Government sponsorship, promises a practical, useful type of aircraft with special flying abilities, freeing it from airport limitations. Kellett's experienced engineers and

production organization look forward confidently to the time when the helicopter will serve alongside conventional aircraft, in the air-minded world of tomorrow.

### SEND FOR INTERESTING BOOKLET

Are there questions in your mind about what the helicopter can do, its capacity, cost or speed? Send for "Answering Some Helicopter Questions" Kellett Aircraft Corporation, Dept. N, Upper Darby (Philadelphia), Pa.

# KELLETT

OLDEST ROTARY WING AIRCRAFT MANUFACTURING COMPANY

VOLUME 2 • NUMBER 26

# Aviation News

McGraw-Hill Publishing Co., Inc.

January 8, 1945

## Plane Allocations Abroad Stress U. S. Aims in World Air Transport

Assignment of surplus aircraft to three European neutrals recalls that landing rights have been granted to American aircraft by Sweden and Spain and that Turkey has signed the Five Freedom section of Chicago agreement

By WILLIAM G. KEE

Allocation of transport aircraft to three European neutrals—Sweden, Spain and Turkey—was interpreted last week as leading emphasis to reports that surplus planes will be used to support American aims in international air transportation.

Sweden and Spain have granted the United States landing rights and Turkey signed the Five Freedom section of the Chicago agreement, with reservations on the fifth freedom.

Other allocations to foreign air-line operators included planes to three subsidiaries of Pan American, to Canadian Pacific Airlines, to the national airlines of France and Belgium, and to two in South America.

**27 C-53 Type Planes Allocated**—In all, 27 planes of C-53 type were allocated: five to Alltobaljet Aerotransport (Sweden), three to Cia Mercantile Aeronautica Iberia (Spain), three to Devlet Hava Yolları (Turkey), five to Direction des Transports Aeriens (France), three to Societe Anonyme Belge d'Exploitation de la Navigation (Belgium); three each to PAA subsidiaries Pinaro do Brasil and Cia. Mexicana de Avionacion and two to Cia. Nacional Cubana de Avionacion. Lockheed-Leadster assignments were: two to Canadian Pacific Airlines, three to Lines Aeropostal Venezolana (Venezuela) and one to Navegacao Aerea Brasileira. Pan American itself received three C-53's within the allocations in domestic operations, and Pan American Grace Airways, one.

Allotments to the Swedish, Spanish and Turkish neutrals are considered significant because of the agreements or other cooperation evidenced by these countries

along this nation's policy in international air transportation following the war. Observers also point to the recent official emphasis given to the language used by former Assistant Secretary of State Adolf Berle in opening the Chicago conference. Berle re-emphasized the policy of non-discrimination in the release of surplus transport planes, but added that this policy would apply "to those countries which recognize, as do we, the right of friendly intercourse and grant permission for friendly intercourse to others."

**Assignment Procedure**—Assignment of the planes to foreign airlines is made by the Working Committee of the Aviation Division of the War Relocation Administration, with the foreign allocation recommendations being

made by the State, War and Navy Departments.

The Belgian line to which three planes were assigned is operating. It is understood, in the Belgian Congo, from where many vital war materials are being obtained by the United Nations. The line is generally known as Sabena. The French line is one organized to take over properties and routes of Air France, and operates with in France and to Algeria, Morocco and Tunisia.

The Swedish airline operates internally in that country, with foreign operations to England, Finland, Denmark and, also, to Berlin. The Spanish line operates internally, to Spanish Morocco, the Canary Islands and Madeira. The Turkish line is understood to be an internal operation.

**Cuba and Mexico**—The Cubana line operates through Cuba and also in a war contract runs to Miami. The Mexican PAA subsidiary flies an east-west route through Mexico from Brownsville.

The Venezuelan company operates within that country, with headquarters in Caracas. It now owns six Lockheed Electra, two Lockheed 14's and one Lockheed. The Brazilian NAB line has routes from Rio to Fortaleza, and from



MARTIN MARAUDERS AT FINAL ASSEMBLY

This Alherts unpublished picture was taken in the final assembly area of the Martin-McDonnell Co., before completion of the plant to manufacture of Boeing B-29 Superfortresses.

How to Reville and Jaas Pease. It now has two twin-engine Beechcraft, one single-engine Beechcraft, and two Lockheed.

All the planes assigned to the foreign airlines are in that country and are scheduled to be converted here and flown or shipped to their ultimate users. Payment is in cash, and on the same basis of cost as that of domestic companies, with flight or shipping costs to the using nation to be paid by the purchaser.

## 1430 Army and Navy Surplus Planes Sold

A total of 1,636 planes declared surplus by the Army and Navy have been sold to the end of the year, in addition to the 5,466 Defense Plant Corp. planes disposed of.

bulk of sales remain in light-plane class. Sales averaged 23 a week, although the number dropped during the holiday season. Sales have varied from a week's lot of \$4 to \$56 in recent weeks. Greater Sales Equipment, chairman of the Toyscraft and Paper group, have been moving at a rate higher than expected with 77 sold to date. In one week recently,

## 14 Concessions

Fourteen of the 17 Budd Concessions are reported built for the Navy, and based on an original design modified to meet South American cargo plane needs, are being delivered surplus.

The planes will be allocated through the Aviation Division of the Bureau of Property Administration. A number of inquiries have been made relative to them.

The price is no longer in production and all jigs, dies and fixtures have been turned out in the Budd Philadelphia plant, now long an office and warehouse. Because of the replacement parts problem, it may be that the planes will be sold as a single lot, or as two lots to minimize this difficulty.

29 were sold, bringing 50 percent of their cost price to the government, \$11,000 in sales against \$44,000 in cost.

Thirty-two of 128 utility cargo planes have been moved, while heavy trainers are proving as fast-food—a drug on the market. They are being moved to open storage and held pending determination of a government flight training program.

## Banks Adopt Uniform Plane Financing Plan

Principal institutions in eleven West Coast cities reported using uniform developed by Bank of America of California.

Major banks of eleven West Coast states are reported to have adopted a uniform aircraft financing plan based on that developed by the Bank of America of California.

Their offering of uniform interest rates and financing procedures is being used to induce eastern manufacturers to adopt bank financing in the post-war marketing of personal surplus and stockpiles throughout the Pacific Coast area.

**1636 Bank Branches Involved**—Pending the outcome of conversion now in progress, Bank of America is withdrawing public identification in withdrawing western banks participating in the financing plan. It is known, however, that eastern manufacturers are being told that the plan offers the financing facilities of 113 bank branches serving a volume of economy in 13,900,000 in 1948 loans and credit.

The participant banks anticipate the underwriting of extensive personal loans for the purchase of new and used aircraft, the handling of aircraft dealer financing paper, and the financing of both feeder and trunk airline ventures.

**Uniform Plan Adopted**—The banks are reported to have adopted for uniform use what Bank of America advertised as its "uniform" financing of personal aircraft purchases for five per cent on new aircraft and six per cent on used. The adoption of a five per cent rate rather than six per cent, which Bank of America has used in "uniform" financing of new automobiles, is reported to have been in anticipation of the larger sums involved.

The airplane financing plan as used by Bank of America, and banks adopting the plan will work somewhat as follows on the purchase of a new airplane valued at \$15,000 cash, \$15,000 down payment, one third, \$5,000, interest, \$175, master policy insurance, \$5.00, finance charge, \$5 per hundred on \$11,153 balance after down payment, \$39.15, balance due, \$1,242.15, payable 12 months in one installment of \$103.69 and 11 installments of \$100.93.

## Canadian Firms May Reconvert Planes

Victory plant expected to have sales available on completion of PRY-A Canadian contract in March.

Possibility that Canadian aircraft companies may reconvert the production of military aircraft to commercial service has been reported. With 54 planes returned to domestic airlines in less than a month, the conversion problem is becoming a major domestic production problem.

One factor which may operate against conversion by companies other than the airlines themselves will be the ultimate decision on the government's allowance for the cost of conversion. Because of war demands beyond the control of the Douglas company, it was found that factory conversion costs were higher than airline conversion, and that the latter have been higher than allowances furnished by the Defense Plant Corp. This spread may be narrowed when the final decision is arrived at, but still would require a volume of economy in 13,900,000 in 1948 loans and credit.

**As Pledged to Do Own Work**—As it

stands now, most airlines are preparing to handle their own conversion work. But manpower problems, increased maintenance requirements of the larger fleets and material shortages may bring at least one Canadian company in to the picture. This would be Canadian Vickers, which already has had Douglas-type plane experience through DC-4 conversion. Space may be available for the work on completion of the PRY-A, Canadian contract in March. Douglas is not expected to have any manpower or space available for civilian work because of demands for its planes.

No decision has been reached by any of the airlines on the method of payment. Three courses are open: purchase for cash, purchase on an installment plan, or lease. Although the airlines are being given the plan of payment, no exact details of the payment are worked out by the Defense Plant Corp., the Aviation Division of the Surplus War Property Administration and a committee of the Air Transport Association. Before settlement can be reached, concessions must be made on conversion allowances, contract details and negotiations on the condition of the individual plane.

**Lease Contract**—As it stands now, the lease contract would be terminated at any time after one year at the option

of the lessee airline. This appears to be the most advantageous method, but the lease of aircraft is not a new factor. One of the type prices are based on current market conditions and may be revised downward. When they are revised, adjustments will be made on outstanding leases, but the adjustments will not be retroactive.

The type price, it should be pointed out, is the price established for the plane as it is to be used in other words, the purchase of a C-33 intending to convert and use it as a DC-3 passenger plane will not pay the type price for the C-33 but that for a DC-3 and the conversion allowance is deducted from this higher price. A second factor is that there will be little or no market for the plane when the airline replaces it, as there has been in the past, so that it would be an advantage to cancel the lease and return the plane to the government for disposition.

## Industry Heads Study "Survival" Problem

Post-war readjustment period may decide life or demise of many essential companies.

Looking beyond the accelerated aircraft production schedules, leaders of the aircraft manufacturing industry see a readjustment period which will mean survival or demise of the business, dependent on how the readjustment problem is handled.

The immediate "survival" problem, in the view of these executives, involves contract termination, conversion, and disposal of military aircraft.

**Industry Satisfied**—As of now, the industry is generally satisfied with the approach embodied in the new post-war program. However, policies covering contract plan food fee contracts have not as yet been settled to the satisfaction of the industry. Prime contractors, at the market, are working at top speed to make settlements with their sub-contractors as requested by the government.

Problems of conversion which have been moving forward continuously under a broad policy of WPB, which permitted aircraft manufacturers to work on prototypes of prototype planes where that did not interfere with the main effort of war production is now

overshadowed by the current production campaign.

The third problem—surplus disposal—links with the matter of contract termination at present in the opinion of most industry executives. The industry believes the surplus disposal policy, if properly administered, will be in the best interest of progressive aircraft development. But government and industry are seeking to avoid a repetition of the mistakes made in the previous post-war period. Thus, surplus aircraft and engines cluttered the market for years and thereby retarded technological development.

## Study Labor Problem In W. Coast Plants

Concern has been expressed by the Air Technical Service Command over the national preference for military aircraft in war-plane production.

Col G. H. Johnson, Wright Plant, ATSC public relations officer, who spent last week touring West Coast plants, reported to West Coast Aviation. Writers that he found housing conditions, transportation and complacency among workers on West Coast aircraft manufacturing area had a labor turnover of 50 per cent for a six-month period and why two West

## AVIATION CALENDAR

- Jan. 15—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 16—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 17—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 18—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 19—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 20—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 21—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 22—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 23—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 24—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 25—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 26—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 27—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 28—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 29—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 30—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.
- Jan. 31—Bureau Aircraft Standards Committee, ATSC, Springfield, Mass. meets.

Coast plants are the "worst" among 28 of the nation's prime aircraft contractors in absenteeism.

Without elaboration, Col Johnston said "the attitude of both the manufacturer and labor in West Coast industrial areas appears to me as a deciding factor in the war production effort."

## WEST COAST REPORT

### New Tandem 'Copter Developed on Coast

Prototype under construction by Rotor-Craft Corp. is expected to be ready for flight test by July.

By SCHOLER RANGS

One of the first of tandem helicopters under development is the present phase of rotating wing evolution should be ready for test flight in Los Angeles by July, offered by Rotor-Craft Corp., offered by Gilbert Maltby, former engineer for major Southern California airplane companies.

Under wraps until now, Rotor-Craft must be considered as one of the most serious entrants in the competition for production of a helicopter design that will be practical commercially after the war. Design drawings for an experimental prototype have been completed and the company now is preparing for immediate construction of the model.

**Two-Passenger Model** — The prototype will be a two-passenger design carrying an 25-horsepower engine in an 18-foot steel tube tandem main rotor, and a second, smaller rotor of approximately 16-foot disc diameter each. Rotors will be tri-bladed and rigid, counter-rotating, and subject to cyclic incidences. The design will be maintained by large tube linkage of the rotor shafts. The prototype is designed for a gross weight of 950 pounds, including fuel and passengers.

The design is based upon extensive research aimed at improvement of controls and increase of rotor efficiency through a radical design that is expected to eliminate vibration and give higher forward speed than the present rotor design before in helicopter flights. Rotor-Craft engineers also have developed an original rotor test rig for measurement simultaneousness of six force components.

Preliminary test of small rotor assemblies, and of a small flying

model which has been demonstrated to the Army and Navy, convinced the designers that their research has augmented instability inherent in a series of early tandem helicopters, which were developed in 1939. Boston Dunsen experimented with a tandem helicopter design.

**Simply Featured**—Structural simplicity is a basic objective of the Rotor-Craft design, which uses the fuselage structure for rotor mounting and eliminates the weight, and complex stress problems, of designs which mount dual rotors on axes extending from the fuselage. It provides also aerodynamic advantages that are expected to prove important.

Maltby is convinced that new methods of mounting rigid rotor blades will prove important in their simplicity. The Rotor-Craft prototype is known widely on the West Coast as a rotating wing engineer and is instructor of University of Southern California helicopter design course, a part of the university's war training program.

### War Needs Cloud Civilian Production

Plans for shift to manufacture of non-military planes revolved last hopes continue for civilian output this year.

Resurgence of military demands in the past two months has made it evident that the outlook for a shift to any civilian production of aircraft will have to be altered, although it is difficult to estimate the extent at this time.

Going into 1943, it is certain that renewed emphasis on production of aircraft for the military will absorb the major part of the industry's facilities during most of the year, if not the whole of it. It also appears certain that production and development problems encountered with military requirements will continue to depress the industry's best planes and still.

**Civilian Production Setback**—At the same time, there is a distinct feeling in Washington among production officials that all ideas for civilian production in 1943 need not and should not be abandoned.

In this connection, some officials have made these comments:

**Military programs projected** into 1943 call for levels of output considerably below the industry's demonstrated peak capacity

**WPA's approach** to civilian aircraft production from the start has been in terms of "essential" needs. The 3-4-8 order down up at mid-year was designed to assure a method of orderly shift of production capacity from military to civilian output, synchronized with the planned decline in military requirements. It makes provision for absorbing production of aircraft and aircraft products to meet essential needs on the home front and it was understood that essentially could be demonstrated wherever it was concerned with war production.

While realizing that public-relations difficulties may be involved, it is believed WPA will probably follow some sort of cautious policy achieving plants to fill in with essential civilian production where war contracts are cut back or taper off. Some lightplane companies have received new war orders.

Although the situation grounded at both military and civilian headquarters in Washington is distinctly unfavorable to production of anything except military aircraft at present, the economic realities of the late war situation are such that responsible officials are far from ready to write off civilian aircraft in 1943.

Both raw materials and fabrication capacity are known to be ample, but the cutting back of aircraft schedules during the latter half of 1944 caused a decline in the manpower employed in fabricating operations of replacement of military aircraft. While airplane, engine, propeller and airframe assembly plants also have had a loss of personnel during the past year, much of this has been balanced by increased labor productivity for the industry as a whole—C-S-H.

### Stratocruiser Dash

The giant Boeing Stratocruiser is expected this week to make an attempt to break the West-East transcontinental transport record set last year by the Lockheed Constellation, probably landing, according to present plans, at Washington late this week for its first official showing.

### ATC Group to Meet

Agency Committee of Air Traffic Conference is to meet in New York City Jan. 16-17 to elect a chairman and discuss, among other things, all-expense tours and provision of interim air tours.

## Transport Plane Surplus Problem May Be Easier Than Expected

New reports from Europe and revised estimate of needs of services in Pacific indicate extremely high utilization and aircraft use, with prospects that post-war period will necessitate continued use of equipment in areas to replace damaged and inadequate rail, truck and bus facilities.

Strengthening the opinion of many aviation authorities that the transport plane surplus will be much lower than generally anticipated are new reports from Europe and new estimates of the needs of the services in the Pacific.

Despite all emphasis placed on the exploits of the truck supply service, the oil pipelines and the speed with which some railroad lines have been repaired and placed in operation, the biggest factor in the supply picture in France today is the transport aircraft.

**Shortage in Europe**—While there undoubtedly has been a number of transport planes in this country that have not been used to their full potential, latest War Department reports indicate that there is a critical shortage of transport planes in Europe. They give their best service, however, when they are of one type for ease of maintenance, interchangeability of parts and operation. Consequently the Army is standardizing on the Douglas C-47, the Curtiss C-46 for its operations and releasing other types in this country. It is believed that it may be possible to surrender C-53's and Lockheed to surplus.

Whatever tactic may be accomplished in repairing French and Belgian railroads, service will not be adequate for several years because rail repairs are necessarily patchwork, making stock has been damaged, taken by the Germans or worn out. Trucks have to be used in most cases never intended for heavy traffic and in any event badly weakened by bombing and neglect.

Military demands at the moment require every available plane, and at times superfluous planes are required, as in the operation of long-distance troops trapped at Bastogne supplied with food and ammunition. Such an operation results in heavy losses in transport craft but to enemy action and operational mishaps. At another time in the earlier days

of the French campaign, an aerial shuttle service brought more than 1,000 operations in one day into a single makeshift airport. Available fields are not the type of which planes of the C-47 type are usually operated, with a single heavy aircraft rate. Engines are used under appalling conditions compared with normal operations.

**Depend on Air Transport**—It is a view of many aviation observers that air transport will have to be depended upon for several years after the war to keep a spark in the economy of many of the nations of the world. It is believed that surface transportation is not going to be sufficient to restore anything like a normal existence in the various countries, and some form of air service, whether military or civil, will absorb most if not all of the transport planes in the theaters at the time hostilities cease.

It is believed that the service will have to be maintained in government civil transport in nations where money today is subordinated to military effort. Once the military task is done, then increasing contribution will have to be placed

on relief of the civil population and re-establishment of industry, movement of food, re-location of people, maintenance of military establishments and rebuilding of cities and towns.

**Pacific Outlook**—Prospects of a longer war in the Pacific also are changing the view of many observers. Emphasis at the moment is on the long-range equipment needed in later-stage service through the Central and South Pacific. But there will still be need for C-47 type equipment in services where water hops are not beyond economical range and in the Philippines where major base facilities must be built up. Again air power must fill in large gaps resulting from a lack of shipping, despite the tremendous production of vessels by this country.

### Emanuel Chairman Of Aviation Corp.

Victor Emanuel, president of Aviation Corp., has been elected chairman of the board and will be succeeded in the presidency on Feb. 1 by Irving H. Babcock.

Babcock has resigned as president of Yellow Truck and Coach Manufacturing Co., vice-president of General Motors Corp., chairman of Yellow Manufacturing Acceptance Corp., and chairman of Hertz-Drive-Up-Sell Companies to take the new post.

Emanuel will represent Aviation Corp. in its various subsidiaries and will be in general charge of its operating divisions. Emanuel will continue as chief executive.

### D. D. Crystal Dies

Douglas D. Crystal, senior attorney of Civil Aeronautics Administration since 1941 and legal adviser to Administrator T. P. Wright at the International Aviation Conference, died in Washington at age 64 on Jan. 14. A graduate of the University of California and Harvard Law School, he had been with the agency since 1928.

### Inwood with DPC

Leas Inwood, executive staff assistant for TWA of Kansas City, Mo., is known of absence for War Relocation Authority to James D. Garfield, chief of the Aviation Division of Defense Plants Corp. Inwood's assignment is said to involve work on all DPC aviation matters except plane allocation.

## COMMENTARY

## Tactical Air Power Plays Vital Role Against Nazi Spearheads

Continuous all-out assault which knocked out hundreds of tanks and thousands of armored vehicles, blasted communications and supply lines, discloses what modern flexibility of air power can accomplish, commentator says.

In the greatest tactical air operations in history, Allied armies of the U. S. Ninth (Tactical) Air Force, started by those of the R. A. F. Second TAF, savagely attacked Voss Headquarters' armor, transport, and communications for five straight days of unexpectedly good flying weather beginning on Christmas Eve. This all-out assault knocked out hundreds of tanks and thousands of armored vehicles in flying over 10,000 sorties, and combined with Patton's great drive, it held up the swift Nazi advance against vital points on the Moselle River.

While this was going on, thousands of heavy and medium bombers were smashing bridges, rail and road junctions behind the lines in an effort to isolate the 1900

squad to tactical operations, and the success of D-day, the breakthrough at St. Lo and the rapid defeat of the Nazi armies in France and Belgium are shining examples of how well the job was done.

The Ninth Air Force is a self-sustaining and self-sufficient as an air force can be. It has its own Engineer Command to build front-line airfields from which its highly effective Lightning, Mustangs and Thunderbolts fly up to 3000 per day of the most difficult types of sorties in intimate support of the ground forces. It has its own Air Defense Command (including aircraft warning services, fighter control, day and night fighter units, and anti-aircraft artillery) to protect these landing strips from attack by the Luftwaffe without overburdening army artillery; lack of this in China has been nothing short of a catastrophe. Its own Air Service Command, the most intricate and extensive in the world, handles almost any kind of repair and replacement practically without loss of energy shell for a Bomber Command, with Messengers, Bombers and Juncoers, is always on tap, for heavier assignments than those usually tackled by the free-flying fighter-bombers.

**Technique of Air-Ground Cooperation.**—The 554 word is Cooperation. At the top, Maj. Gen. Hoyt Vandenberg's 9th A/T headquarters are only a few minutes' walk from Lt. Gen. Omar N. Brad-

ley's Army Group headquarters, and in a command operation intelligence tent, based on each side by the mobile vans of the ground and air forces, officers from both camps in the air-ground team work together as though they were a single organization. As the size of the forces increased during the summer and new field armies came into the picture a Tactical Air Command, headed by a brigadier general, was assigned to each army for close, day-to-day air-ground cooperation (see chart). By practically living together, the ground and air staffs can plan their operations effectively with minimum losses and maximum interference. Red tape is slashed with breath-taking swiftness. Through this close association the two staffs learn and understand each other's plans, and the foundation of joint planning is solidified.

**Centralized Control and Flexibility.**—Although each Tactical Air Command has certain units attached to it for its local operations for painting and maintaining air assets, personnel, transportation and attacking well-ground targets, centralized control by the Tactical Air Force is not withheld. The Ninth Air Force has complete and direct control through its Fighter Command, Bomber Command, etc., of all the aviation under its jurisdiction. For example, the main striking force, 9th Bomber Command, is a powerful weapon whose employment is controlled directly by the staff of the Ninth Air Force. Any of the fighter, fighter-bomber and reconnaissance aviation assigned to any one of the Tactical Air Commands may, through planning, be allocated to another Tactical Air Command for a particular operation in order to mass the power of the air force behind the main effort of the ground forces, in order to make a particular emergency. Thus, to meet Von Rundstedt's spectacular breakthrough, the command might of the 9th Bomber Command and the bulk of the aviation assigned to the 14th and 35th Tactical Air Commands, cooperating with the 2nd and 8th Armies, were thrown into the breach to help the 1st Army—9th TAC team.

On a still higher echelon, SHAEF was able almost at the drop of a hat to throw in fighter-bombers from RAF 2nd Tactical Air Force, and to take thousands of heavy bombers from the Eighth Air Force (part of USSTAF) and RAF Bomber Command and throw them in



**High Altitude Mask:** Use of new pressurized demand-type oxygen mask, which automatically supplies a pilot with proper mixture of air and oxygen under pressure without inhalation effort, enables AAF pilots now to fly as high as 50,000 feet for short periods of time, according to Air Technical Service Command announcement.

great masses behind the lines to smash rail and road centers in order to prevent supplies and reinforcements from reaching the front. More than most people think, wars are won by good organization.

## NAVIGATOR

## New Mask Permits Flight at 50,000 ft.

Development of high altitude apparatus announced by AFSC's aero-medical laboratory.

New pressurized oxygen mask, that enable AAF pilots to make high altitude maneuvers up to 50,000 feet with scientific protection against anoxia for short periods of time, are announced by the Air Technical Service Command's aero-medical laboratory at Wright Field.

The masks seal comfortably on the pilot's face for positive pressure, equivalent to 8 to 12 inches of water pressure. The pressure system is not a substitute for complete cabin pressurization but does guarantee to the high altitude flyer a full supply of oxygen, and permits normal men to remain a half hour at 45,000 feet, and short emergency periods at 50,000 feet. The pressurization is combined with the demand type mask which about two years ago went into service, saving the human effort

to about 40,000 feet. The new system utilizes one to two inches pressure between 30,000 and 40,000 feet, eliminating leakage.

**Pressure—On.** Continued high altitude pressure, two to four inches pressure is used. Current pressure ranges from two inches at 30,000 feet to 12 inches at 50,000 feet. To eight inches of pressure may be required by virtually all normal individuals. Above that pressure, circulatory failure may result in some cases. Lieut. Col. A. P. Gagne, AFSC-PHSC specialist at Wright Field, recommends that preliminary work with altitude pressure chambers be used to eliminate such persons from extreme altitude flights.

Oxygen flows from low pressure cylinders through a regulator, a diaphragm-operated flow valve which supplies proper mixture of air and oxygen when the flyer inhales, shuts off when he exhales. With the pressurized system, oxygen flows automatically without effort, and only when the pressure builds up to a value predetermined by setting on the regulator disk. Exhalation effort is increased under the pressure system, but is not sufficient to be of importance, because of low density of the oxygen in the flyer's respiratory passages.

Set at "normal," the regulator functions as a conventional demand-type regulator. Turned to "safety," the regulator maintains a one-inch pressure, and higher pressure is obtained as needed by turning the dial.

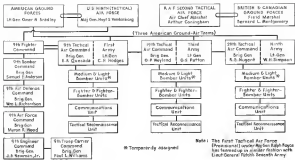
Contributions to the research which has developed the new system have been made by Laclede Products, Mine Safety Appliances Co., Aero Equipment Corp., Pioneer Instrument Co., and the AFSC aero-medical laboratory.

## Navy Plane Output

Tactical combat planes produced for the Navy in 1944 totaled 26,401, Secretary of the Navy Francisco, reveals. Tactical aircraft production was 3,278, training, 1,765, and miscellaneous types 669, for a grand total of 30,070.

Mr. Forrestal disclosed that the Navy now has 37,688 aircraft of all types in a number of which it expects to stabilize. Tactical production has jumped from 1,866 in 1941 to 3,354 in 1942, and 18,371 in 1943. Transfers are down from the peak year of 1943, when 6,657 were produced.

ALLIED TACTICAL AIR POWER ON THE WESTERN FRONT



# Tenn. Pioneering in Air Education Made Possible by 7c Plane Gas Tax

Levy used exclusively for support of airports and promotion of aviation; state now has 50 fields compared with 19 in 1938 and expects 50 more as result of national port program submitted to Congress.

By ALEXANDER M'GURELY

Pioneering by Tennessee in the field of aviation education for the youth of the state has its foundation on the state's aviation law, which provides that a seven-cent-a-gallon aviation gasoline tax shall be used exclusively for support of airports and promotion of aviation. Half of the tax is kept for improvement and support of the airport at which it is collected.

One result of this law is that Tennessee, which in 1938 had 19 airports, exclusive of military fields, now has 50 airports, and expects to get nearly 50 more in the national airport program now submitted to Congress.

**Bureau Gets Other Half**—The other half of the tax collected is turned over to the five-man Tennessee Bureau of Aeronautics, which takes pride in the fact that its present cost is less than one per cent of the money it collects, a smaller percentage than the operational cost, it is believed, of any governmental agency, the American Red Cross or the Community Fund.

Expenditures for the promotion of aviation, singly, are routine jobs: a new concrete apron for a larger hanger, a better access road to an airport there—but they add up to a total picture of a state preparing its people to fly and preparing the facilities for the day when they will take to the air, en masse.

Currently the bureau has a number of projects under way. The engineering college at the University of Tennessee is operating an architectural service for cities and towns planning airports, while the agricultural college is conducting a similar service of advice on and coverings for small airports. The bureau is contributing partial financial support to a program of psychological research in aviation instruction at the University, directed by CAA and the Na-

tional Research Council, the first study of its kind and one expected to have world-wide effect in future aviation training curricula. **High School Program**—Appreciating the need for concerted high school aviation instruction, the bureau has provided 325 scholarships valued at \$200 each for teachers in service and students in training, with courses given at the seven

normal schools of the state and corresponding flight training designed to fit the teachers to instruct the air age logically to students who are growing up in it.

A course for airport managers started in 1942 at Knoxville, a considered valuable for the time when the state will have nearly 100 airports. First airport in the south, adjacent to a city park at Nashville, (Aviation Street Sept. 25 and Dec. 11) will attract those who fly and aspire those who want to fly, by its pleasantness, the bureau believes.

**Started in 1938**—Since 1938, money provided by the state gas tax has built hangars, rebuilt runways, built control towers, provided seed and fertilizer for airport turf, installed water and sewage systems, built roads, improved airport grading and pointed more than 300 air markers on maps throughout the state.

In 1938 five large ground schools were established with more than 7,500 Tennessee over 16 years



## INTER-AMERICAN TRAINING PROGRAM

Progress of the Inter-American Aviation Training Program conducted by the Civil Aeronautics Administration for selected students from South and Central American countries, from its beginning in January, 1942, to the end of 1944, is shown in the above chart prepared by CAA. Besides these future pilots and mechanics, trained in the United States, CAA members assisted in setting up pilot training programs in Brazil and Mexico.

## Geisse Now Private Flying Aide

In line with increasing emphasis of the Civil Aeronautics Administration in private aviation, Administrator T. P. Wright announced the appointment of John H. Geisse as assistant to the Administrator for private aviation development. Geisse, formerly an economic consultant to the Civil Aeronautics Administration, had recently submitted his resignation to the post.

Prior to announcement of his new appointment, Geisse was understood to have considered his position to leave CAA. His elevation to the new post means high plane and private aviation work may come a better deal from the administration. He has been an assistant chief of CAA regulation of private flying, particularly in his physical requirements for a pilot's certificate.

old attending. Of this group 150, selected by competitive examination, have been free flight training, and many of the boy flight students are now Army and Navy pilots.

Other projects included distribution of special air age globes in the schools of the state, printing 30,000 copies of a booklet, *From Aviation for the Future Pilots of Tennessee*, an Aviation Education Forum at Nashville in 1941, attended by educational and aviation representatives from Southern states, and so successful that a second similar forum was held in 1942, in connection with the campaign of the U. S. Department of Education and the CAA to introduce aviation courses into curricula of the high schools throughout the country.

**Glider Program Abandoned**—Twice the bureau started and discontinued projects, because of cost and pressure, but both projects were later proved worthwhile. The first was a glider program which was to have been installed in the state schools under supervision of Howard C. Jones, of Columbia. The program was dropped after adverse criticism of gliders in the U. S. Senate and by cabinet members, but 30 days after it was given up the aviation of CAA by German gliders came, and interest in American military gliders belatedly revived.

In the new year the bureau began a women's instructor program, training ten girls as flight instructors at cost of \$1,000 each. Each girl went into military instruction work. The state compares this cost against an estimated cost of \$25,000 each for the Army training of women reserve pilots, which was condemned by Congress as wasteful and unnecessary.

Robert B. Hinchey, in 1942, then Assistant Secretary of Commerce, had decided to place him as the first state to introduce

aviation curricula in to its public schools and its program is one of the most commendable yet devised. As a result of its work, the state bureau received the Frank G. Brewer trophy for its contributions in aviation education, in 1943.

## 3 Air Strips Urged For Chicago Service

City's Aero Commission proposes construction of major airports to cover about \$10 million, and in addition to improvements at municipal airport in Chicago.

Plans for construction of three major air strips, costing approximately \$10,000,000 apiece, to serve Chicago, in addition to the proposed improvements of the municipal airport at Chicago, have been suggested by the Chicago Aero Commission.

Ralph Burke of the City Park District, expects the three strips to handle both private aviation and cargo, and to be built on 100 miles in range, with long-range facilities using the big Chicago terminal. He estimates that annual maintenance of each strip would be about \$400,000 as against the revenues of \$400,000 a year, for a loss of \$300,000 a year. One strip is planned to replace a dike with resultant saving in pollution and fire protection for the area, but also with resultant reduction of population in the area.

**Favors One-Runway Fields**—Burke is optimistic about use of one-runway fields, believes that planes with tricycle gear can use the one runway about 95 per cent of the time, cite thousands of military operations from single landing strips by Army and Navy planes throughout the world.

Merrill Hauck, chairman of the commission, has recommended that the proposed construction of a huge

airport on the lakefront at a cost of \$125,000,000 to \$150,000,000 be abandoned, and that development for a big commercial terminal be concentrated on the present airport at Cicero. He opposes the construction of over-land runways, maintaining that the 4,000-foot runways now provided in twin parallel multi-direction arrangement at the municipal field are suitably long to accommodate any planes in existence or now contemplated.

While instrument approach is now requiring more length of runway, Hauck believes faster development of instrument landings will offset this additional length requirement.

## Mail Pickup Invented Sows Seeds by Plane

Develops system of dropping bird- and rodent-resistant pellets for planting of sub-marginal areas.

Dr. Lytle B. Adams, Irwin, Pa., inventor of the aerial pickup system, has announced another aviation invention which may prove as important to America's peacetime future as his pickup system is to military aviation. His new development is a system of sowing large barren areas by steering small pellets from an airplane.

Previous attempts to drop seeds from planes proved unsuccessful because the seeds were so light they were blown away by the wind or were eaten by birds, insects or animals, before they could germinate. Dr. Adams has solved this problem by rolling the seeds into small pellets of pulverized clay, to which radon and insect repellents have been added. Pellets range in size from that of a pea, to about one inch in diameter. The added weight of the clay causes the pellets when dropped to penetrate into the earth, while moisture of the clay permits germination with only eight inches around.

**Automatic Planting**—The pellets are automatically fed into a central rotating pan, in the airplane, from which they are tossed out of tubes leading from the pan which discharge the pellets in a spiral pattern. The inventor estimates that a plane flying at 120 mph. could plant one pellet in every square foot of an area containing more than 14,000 acres, in one hour.

Dr. Adams reports that pre-



secretaries of the U. S. Department of Agriculture have shown interest in his plan as a means of re-establishing sub-subsistence, barren portions of the 270,000,000 acres of public domain.

**Blaveator at 16**—The inventor, a dental surgeon, began his career as an engineer of mechanical devices at 16, when he produced a bottle-capper. He is now 53, is best known for his pickup system development which All-American Aviation, Inc., has been using successfully for several years in lift mail from the ground by plane, and which more recently has been adapted by the Army for harness and glider pickups. For the last three years, Dr. Adams has been working on extended projects for the Army and Navy but found enough spare time to develop his new seed-sowing system.

## New Survey Made Of Pa. Airports

Seize commission to file data on all fields subject to improvement or extension under proposed CAA national program.

On completion of a topographical survey now being made by the Pennsylvania Aeronautics Commission of every existing airport in the state which is subject to improvement or extension under the proposed CAA national airport program, the commission will compile a new file of information on the airports, far more complete than anything now available.

William L. Anderson, executive director, interprets the general philosophy back of Pennsylvania's airport program as the feeling that first there should be at least one airport within five miles of every city, town or borough with one thousand or more population. In many instances one airport could serve six or eight such communities initially. The commission anticipates that larger communities will need several airports, as many as a dozen, but places major emphasis on making more landing facilities available as soon as possible to every community.

**Future Needs Factor**—Sites are selected with a view to future expansion to take care of possible scheduled operations when needed, but initial developments are planned along minimum expense lines, to provide a safe field for light planes. If the site is well chosen, the commission believes it can be made satisfactory with rela-



NEW BENDIX 'COPTER:

Vertical lift running two-thirds the length of the fuselage is the distinguishing characteristic of the newest version of Vincent Bendix' helicopter, although the craft is similar in many other respects to the earlier drawings reproduced in *AVIATION NEWS* July 21, 1944. Expected to be the first post-war production model of Bendix Helicopter, Inc., New York, the new model will carry four persons, cruise at 120 mph and climb at 664 feet per minute. It uses a 350 hp engine.

tively small amount of grading and clearing, so that future development may follow as community needs and financial resources dictate.

Feeling that community airports should be primarily a local enterprise of the community, Pennsylvania's Aeronautics Commission seeks to stimulate local initiative and interest in the establishment of an airport, through public or private funds. Frequently public-spirited citizens subscribe funds to provide the original Class I airport, after which, when other interest is aroused and possibility of more extensive operations develops, the municipality takes over for further development.

Thirty-two newly established airports have been licensed in Pennsylvania in 1944, besides 36 which were reopened and licensed, after having been closed since Pearl Harbor.

## Auburn, Ind., Becomes Plane Auction Center

Auburn, Ind., is becoming known as an airplane auction center, with sales held every second Sunday at Auburn airport. At a Dec. 19 auction, six planes were sold, and four planes were sold at the first auction, Nov. 26, although low selling and poor visibility handicapped the sale.

Civiltax Aircraft, Inc., which conducts the auctions, collects 3 percent commission on all sales in

which the seller receives his requested price, and 58 percent on any amount paid above the requested price, up to the ceiling price. Seller may reject all bids and is not required to sell his plane or equipment to the highest bidder. Following a holiday recess, the auctions will be resumed Sunday, Jan. 7, and continue at bi-weekly intervals.

## Contract Schools Map Post-War Plans

ATS survey shows many of the 24 in Central Flying Training Command will offer feeder operation, chain support, overhaul, change, crop during, etc.

Post-war planning of 24 AAF Civilian Contract Flying schools in the Central Flying Training Command include feeder airline operation, chain support services, flying and technical schools, engine and overhaul schools, charter service, personal aircraft sales, crop dusting and seeding, and manufacturing, according to a survey recently completed by the Aeronautical Training Society, national liaison agency for civilian contract flying schools.

ATS survey indicated the operators were in sound financial condition generally despite contract negotiations, and ready to step into post-war enterprises with a backlog of valuable experience from their large scale wartime operations.

**2 Continue Cadet Training**—Only five of the 24 schools continue cadet training after Jan. 1. They are Hanger No. 1, Inc., Uvalde, Tex.; Brady Aviation School, Brady, Tex.; and Wilson and Smith Flying School, Chickasha, Okla., all training AAF cadets, and Spartan School of Aeronautics, Manna, Okla., and Terrell Aviation School, Terrell, Tex., training RAF cadets. Schools completing their cadet training quotas include: Air Activities of Texas, Corsicana; Aviation Enterprises, Ltd., Sweetwater, Tex.; Bonham Aviation School, Bonham, Tex.; Pacific Air School, Ft. Stockton, Tex.; Coleman Flying School, at Coleman, near Stamford, Tex.; Harrison Training Center, Bellinger, Tex.; Bryant Flying Service, Cuern, Tex.; Spartan Schools of Aeronautics at Tulsa and Muskogee, Okla.; Poe Buff School of Aviation, Fort Buff, Ark.; Darr School of Aeronautics,

**In meeting  
the challenge of the future,  
*Western Electric*  
equipment leads the way**

War's end will bring a challenge to everyone. To those identified with communications and transportation, faster, better interchange of ideas and goods will be the order of the day.

We at Western Electric—with our 75-year heritage of leadership in communications equipment—believe we are perfectly qualified to accept this challenge.

In world-wide telephony, broadcasting, aviation, marine and mobile radio—in every field where sound transmission apparatus plays a part—Western Electric has led and will continue to lead the way. In these fields as well as in television, Western Electric will play a dominant part in the future.

To speed victory, buy more War Bonds—and keep them!

**Western Electric**  
A DIVISION OF WESTINGHOUSE CORPORATION

ALUMINUM BRASS  
COPPER  
GOLD  
SILVER

Forca City, Okla.; Oklahoma Air College, Oklahoma City; Midwest Air School, El Reno, Okla.; Missouri Institute of Aeronautics, Sikeston, Mo.; Parks Air College, East St. Louis, Ill.; and McFarland Flying Service, Pittsburg, Kan.

## Briefing

## For Private Flyers and Non-Scheduled Aviation

On the basis of experience in planning nearly 150 airports in the last four years, The Baker Engineers, Rochester, Pa., list 23 factors entering into the complex problem of determining location and use of a community airport, emphasizing as most important keeping cost within the community's ability to pay.

Other factors population, present and future, distance to existing airports, topography, local flying, airline requirements, air tourist travel, cargo and freight, postal receipts, trade area, retail sales, national defense, obstructions, altitude, barometric pressure, temperature, wind direction and velocity, type of runway surface, geology of site, accessibility, rainfall-drainage, soil analysis and utility services.

**Beaver Census**—Clifford N. Peart, director of the Colorado Fish and Game Commission, and Norman Kramer, Alamosa, Colo., pilot, recently spent four days flying through the mountains, checking Colorado streams for a preliminary aerial census of the number of beaver colonies. Peart estimates that approximately that covered two years ago by two men on horseback in four months time in a similar study. Peart counted about 693 beaver colonies which he estimates contain 2,240 to 3,390 beaver. He reports that the plane costs were \$200, and that the survey cost for the ground survey, besides the flying is insignificant.

**Back Peacetime—**Summarizing Civil Aeronautics Administration activities for 1944, Administrator T. P. Wright described the termination of the CAA War Training Service program as indication of a gradual shift to peacetime flying. From July 1, 1942, to Aug. 5, 1944, WTS provided the Army and Navy with 325,415 partly trained pilots as "by-products" of the termination. Wright mentioned the disposal of 3,400 surplus planes by competitive bidding, with an average of eight

bidders to a plane, and a backlog of private business which has kept former flight contractors "pressed for help and equipment." In the field of technical research, main CAA contribution to private flying was aiding in development of reliable and inexpensive stall-warning devices.

**St. Louis Regional Plan—A** system of 25 airports in the St. Louis area would include 11 local personal aircraft fields and three congested area ports in downtown St. Louis, according to a report recommended to the Municipal Airport Commission by Hester and Shifrin, consulting engineers. The proposed personal fields would make it possible in most cases for private flyers to travel less than five miles from their homes to the nearest field, far more possible than now. The report also has been suggested for sections of two of the congested area ports which should be raised 30 to 50 feet above street level, the report suggests. Cost of the raised downtown airports would be approximately \$100 million, the report estimates, but it would be equivalent to the cost of a major transport field in an outlying area. A third congested area field would be in the Clayton area, on a street-level site. Development of the congested area fields should not be undertaken until the airport authority reaches a better understanding as to the trend in airplane design and the extent to which a helicopter type may possibly become feasible for bus, air taxi and air mail service, the report recommends. The entire program is projected for completion in 1980.

—A.M.

—A. McE

## Geuting New Head Of ACCA's PAC

Appointed acting manager, replacing John E. P. Morgan, who has been assigned to new duties.

Joseph T. Gusting, Jr., has been named acting manager of the Personal Aircraft Council of the Aeronautical Chamber of Commerce, with assignment of John E. P. Morgan, to broader duties in the Aero Chamber.

Gesting has resigned as vice-president of General Aircraft Corp. and as chairman of the Personal Aircraft Council, to accept his new post.

Presumably, if and when Morgan returns to the management of the council, its functions will be sufficiently expanded for utilization

**Election Jan. 16**—New officers of the council will be elected at a meeting of the executive committee in Washington Jan. 16. William Marx, of Bendix Aviation Corp., vice-chairman, will be acting chairman until that time.

Walter Morgan retains the title of control manager, most of his work currently is in the broader field of chairman of the Aero Chamber's management committee, where he assumes general responsibility for the Chamber's operations. Eugene E. Wilson, president of the Chamber, and vice-chairman of United Aircraft Corp. is away from Washington. Wilson has temporarily assumed the post of general manager, pending appointment of a new manager for the Chamber.

### Eldon, Mo., Airpark Receives Support

Personal Aircraft Council of  
ACCA, NAA and NATA is co-  
operating in development.

Cooperation of the Personal Aircraft Council of the Aeronautical Chamber of Commerce, the National Aeronautic Association and National Aviation Trades Association in development of the model airport at Eldon, Mo., has been arranged, so that the park will be a model not only for the state of Missouri, as originally planned, but a model for the nation.

John E. P. Morgan, manager of PAC, is sending a representative to Missouri next week to confer with the airport committee of Eldon, and with members of the state resources and development department which is adviser on the project.

**Other Groups to Cooperate —**  
NAA Manager Lowell Swenson,

and NATA Executive Director John Wilson also have agreed to cooperate with Eugene F. Fryhoff, aviation representative of the Missouri resources and development department in development of the airport, which is already under construction.

When completed, Kider's airport will include two turf landing strips, 2,388 by 300 feet and 2,000 by 388, a small combination administration-service building, air-

craft and auto parking facilities, space for exhibits by aviation product manufacturers, a small rack and a 9-hole golf course.



**"Cut"—**

It's a perfect approach to the carrier deck, so the signalman waves his paddles, telling the pilot to "cut throttle" on the engine. Now, the landing gear must complete the smooth landing—a job which Aerole efficiently performs with their reliable, shock-absorbing system.

Landing on a rolling flat-top typifies the tough tasks Aero's are handling today . . . forecasts the safety and comfort they will contribute to postwar aviation.

**THE CLEVELAND PNEUMATIC TOOL CO.**  
AIRCRAFT DIVISION - CLEVELAND 5, OHIO  
*Good Good Motors! Buy MORE War Goods and More!*





## Mustangs on the Warpath

The forward element is peeling off. The other half of the squadron will fly formation during the attack, providing top cover. That's how P-51 Mustangs take to the warpath over Burma. And what a warpath ground it has

been. Hunting with everything from bazookas to 500 pound dumb bombs and 1,500 pound demolition bombs, Mustang pilots have forced the Jap in Burma to move furtively at night and to hide in the jungle during the day



Like its famous namesake the P-51 Mustang is tough, hard-biting and elusive.

ROADS block these planes.  
WASTE PAYS helped new them  
WASTE PAPER helped the men  
CAROLINE did them.  
WELL YOU help deliver the next Mustang?

## North American Aviation Sets the Pace

**PLANES THAT MAKE HEADLINES:** the P-51 Mustang fighter (6-35 fighter-bomber), B-25 and PB4Y Corsair bomber, A-1H and B-26 twin engine trainer. North American Aviation, Inc. Mustang Aircraft War Production Council, Inc.

## PRODUCTION

### Plane Production to Top All-Time Record Set in 1944

Last year's dollar volume of approximately \$19,400,000,000 maintains aircraft manufacturing in U.S. in position as largest industry in world; plane, equipment and employee utilization increased sharply.

By SCOTT HERSHEY

The aircraft manufacturing industry in the United States, overcoming problems of manpower, materials, schedule changes, retooling, redesign and condition others, produced airplanes in 1941 with a dollar volume of approximately \$18,000,000,000 which maintains the position of aircraft manufacturing in this country as the largest industry in the world.

Output last year of approximately 81,990 units represents an increase of 15 per cent in production volume over 1943, when the industry produced 85,968 airplanes. With a tentative schedule for 1944 of approximately 92,000 airplanes, the past year's achievement may remain as record-unit output.

**1945 Outlook**—Industry executives see in 1945, however, increased production effort since airframe production output will be greater than ever.

The past year was marked by increasing emphasis on production of larger and more powerful aircraft. The average weight per plane delivered rose from 8,050 pounds to approximately 11,500 pounds. Production was concentrated on tactical types—bombers, fighters, naval reconnaissance and transports—in contrast to the earlier period when aircraft production was concentrated on trainers, which accounted for large totals in the unit output.

Airframe weight produced per employee rose from 56 pounds in November, 1943 to 98 pounds in August, 1944. The 1944 record was achieved with fewer employees, indicative of continued emphasis on improved manpower utilization and improved production methods. From a peak of 2,164,000 employees late in 1943, employment has dropped to approximately 1,811,000.

**Low Profit Level**—It should not

be overlooked that despite continued high volume, the aircraft industry profits continued to be the lowest of any large war producers. For example, in its latest survey, the SEC reported a net profit above income taxes of only 1.3 per cent on sales for the aircraft industry in 1943. Interim reports by individual companies on 1944 operations show the trend to be continuing.

Production pace was continued and maintained in the face of constant changes in design necessary to meet the ever-changing tactical requirements of the military and to maintain performance superiority over the enemy—emphasizing the flexibility of the industry.

In maintaining production, the industry increased the speed of its craft with aerodynamic refinements with new shapes for wings, fuselages and tail surfaces which

## 250,000 Since '41

Unit production of aircraft in the United States tops a quarter of a million since 1941, with approximately 250,000 since Pearl Harbor, according to the Aeronautical Chamber of Commerce.

The Chamber lists annual unit production for the past four years as follows:

1941	13,230
1942	45,777
1943	85,946
1944	87,994
Total	250,000

Production of the United States aircraft industry, compared with that of Great Britain, shows that, since 1939, the date of the war's start in Europe, the United Kingdom has produced 102,689 aircraft.

Production in the United States as of April 30 is running four to one ahead of Germany's, according to the War Production Board.

Since then, of course, Germany has lost many of her vital plants in occupied countries and many have been seized by her.

Japanese production—shortly before the Boeing B-29's came on the scene—was even less in production in 1943. The WPB then estimated Japanese production was only 13 per cent of that of the U. S.

reduced drag. More power, longer service life and easier maintenance were built into the planes. Aircraft engine manufacturers kept



### B-29 WING TESTED TO DESTRUCTION:

This is what happened to the wing of a Boeing B-29 Superfortress after it had been subjected to 300,000 pounds pressure in the Boeing static test laboratory. Other parts of the plane were given the same rough treatment, with all major components, built in steel and aluminum frame, tested to destruction to determine the accuracy of engineering strength calculations.



ing problems with the air-cooled engine installations, most of which now have been solved.

C. E. Wilson, General Motors president, said in announcing transfer of the aircraft development section from Fisher Body Division to the Allison Division that work for the present would continue on military operations, but that "when possible work will be commenced on applications of Allison engines to commercial aircraft."

► **Newly Built X-300**—It also may be planned for the Allison Division to build the X-300 two-cycle private plane engine that has been under development in the Research Laboratory Division of GM for the past seven years and which was reported practically ready for production at the time of Pearl Harbor.

In addition, Allison is now working on jet power units, and has been using half of the Hesse Turner Aeromarine Corp. hangar at Clark Field for testing use of counter-rotating propellers on a plane which has since been dropped from the production program.

## Develops New Plane Tire, Brake Tester

A new airplane tire and brake tester, called a dynamometer, is now operating at Wright Field, a device designed and built on special order for the Army Air Forces by The Adams Machine Co.

It has a total weight of more than 250 tons and took more than a year and a half to construct and install. Most of the machine is the 150-ton wheel, called an inertia wheel because of its resistance to change. On the front and rear of the wheel is a measuring axle for an airplane wheel, so connected with compressed air cylinders that each can be smashed into the inertia wheel with terrific force.

► **Procedure**—Outside the cage chamber in which the tests are conducted, a large amount of electrical equipment, especially adapted to the machine by Westinghouse engineers, sets the inertia wheel spinning. Directly driving the axle on which the wheel is mounted is a 400 hp direct current motor. For 30 minutes it pulls to get the circular mass moving at a speed of 300 revolutions per minute.

An airplane landing wheel cushioned with a three-quarter-ton

tire was potted against the 150-ton wheel and forced it into rotation in 15 seconds in a most severe tire and brake test designed to bring more safety to flyers who are landing larger airplanes at higher speed on all kinds of airfields.

## Beech Maps Increase In Common Shares

Stockholder authorization to be asked at annual meeting Jan. 25.

An increase in the authorized common stock of Beech Aircraft Corp. from the present 500,000 shares to 1,000,000 shares, par value and rights of stock to remain unchanged, will be sought at an adjourned meeting of the stockholders Jan. 25. The annual meeting originally was called for Dec. 14.

According to the proxy statement, the additional authorized stock will be treated as a reserve behind the action is a desire of the company to be in a position to take quick and decisive action with the advent of reconversion and post-war problems.

► **Sale Up Slightly**—Sales, after providing for a refund to the Government amounted to \$86,103,173, according to the annual report for the fiscal year ended Sept. 30. They were slightly higher than the adjusted sales after final renegotiation for 1943, which amounted to \$89,020,000. The company reported production continued on schedule every month of the fiscal year.

After provision for income and excess profits taxes, and a reserve of \$16,879,181 for possible renegotiation, net income is earned surplus was \$2,781,461, equal to 56.74 a share. This compares with adjusted net income for the previous fiscal year, after renegotiation settlement of \$2,216,596, which was equivalent to \$5.45 a share.

## Cam Engine Firm Plans W. Coast Plant

The setting up of a pilot plant and laboratory for the production of cam engines as soon as materials and manpower become available is proposed by The Hermann Cam Engine organization of Los Angeles.

Aircraft engineers have done considerable experimenting with

this type of power plant, but little has been done beyond the experimental stage, although a number of such engines have been built. The firm is discussing a 2300 cc. such aviation engine for operation at 1500 rpm, developing 1800 hp at sea level. The engine is 22 inches in diameter and will weigh under 1900 pounds.

Lieut. Commander K. L. Hermann, with the Navy Bureau of Aeronautics since January, 1943, has, upon request, been relieved from active duty and is now working on the project. Development and production activities will be mainly in the Los Angeles area as a post-war activity, under present plans.

## Corsairs Assigned To Marine Carriers

525 major and 2500 minor changes made in plane; better deck landing now possible.

Marine Corps air squadrons will be equipped with Chance Vought F4U-1D Corsair fighters when they go into action aboard the carriers recently assigned them by the Navy. The new Corsair recently has been revised to obtain better deck landing characteristics.

During the year, 525 major engineering changes and 2,500 minor production changes have been made in the plane, among them the installation of a "twin piston" bomb and auxiliary fuel tank rack, permitting the plane to carry two 1,500-pound bombs under its outer sections. Others were incorporation of a water injection system for emergency power; redesigning of the hydraulic system, replacing of cartridge starters with electrical starters; installation of a new clear-vision sliding cockpit section, and modification of the tail wheel and tail wheel jacks.

► **Talks from Ramsey**—Rear Admiral D. C. Ramsey, chief of the Bureau of Aeronautics, has highly praised the Corsair for its fighter-bomber operations as part of the Fourth Marine Air Wing in the Central Pacific, where more than 75 percent of the targets have been 140 feet or less in diameter in comparison to the 300 feet or more of the normal dive bomber target. The attack usually is made from a 70-80 degree dive at high speed, although low altitude bombs have been used against Japanese blockhouses.

Aircraft engineers have done

# PRESS and the inspection door pops open!



# PRESS and it's locked shut!



New Model Hartwell Latch Model H-4000

The new model-H-4000 differs slightly from H-400, the latest Hartwell door latch, but is interchangeable with it. H-4000 is stronger and improved in other important details. Made of stainless steel, it weighs 3 1/2 lbs.



Double-action, flash-type hinge now available.

Hartwell's new flash-type door hinge is made of stainless steel or Dural. A corner bolt, operating on twin hinge pins, provides a flush, splash proof fit. Spring-loaded, the hinge controls the distance the door is permitted to open. Standard sizes, 15 and 20 in.

Hartwell's new flash door latch answers the problem of how to open inspection and access doors quickly and keep them locked shut. Aircraft manufacturers are including this latch and the Hartwell flash hinge on newer model ships. Airlines are modifying planes to make their use possible.

As much as thirty minutes is saved in the inspection of a single plane by substituting Hartwell latches for other types of door fasteners.

Simple in design, the Hartwell latch is inexpensive to produce. It can be supplied unmounted or spotwelded to an installation plate.

Single source for 222 different aircraft production parts and tools

**HARTWELL**

AVIATION SUPPLY COMPANY

2417 Comstock Boulevard, San Angeles 16, California  
Dallas, Texas • Detroit, Mich. • Kansas City, Kansas

# SEXTUPLE THREAT

- *Fighter*
- *Bomber*
- *Torpedo Carrier*
- *Destroyer*
- *Strafer*
- *Attacker*



THE DOUGLAS A-26 INVADER

Official Photo U. S. Air Force

Wrapped up in one formidable package are the lessons of five years of attack bombing. The brilliant new Douglas Invader is America's fastest, most versatile bomber. It is designed to carry such an extremely flexible selection of machine guns, cannon, bombs, and fuel that its offensive striking power is adaptable to almost any combat situation.

This sleek "war-shooter" is making its presence felt wherever the going is toughest — more power to it.

To us at Chandler-Evans — men and women together — it is a proud feeling to know that CECO fuel pumps are among those chosen for this superb new fighting machine. We are leaving no stone unturned to justify this trust.



**CHANDLER-EVANS CORPORATION**

**SOUTH MERIDEN  
CONNECTICUT, U.S.A.**

## PERSONNEL

**J. T. Thompson**, standards coordinator of the Glenn L. Martin Co., has been elected National Chairman of the National Aircraft Standards Committee of the Aeronautical Chamber of Commerce of America. He brings to his new position an extensive background in standards work and in engineering and design in the shipbuilding and aircraft industries. For the past two years, Thompson has been chairman of the NAAC extramural Sub-Committee. This Sub-Committee developed the recommendations which resulted in the present Army-Navy Aeronautical Design Standards covering commonly used aluminum alloy extrusion shapes.

**Wilfred E. Yarnall**, formerly treasurer and controller of Kellogg Aircraft Corp., became secretary of the corporation succeeding Henry G. Savage, who resigned after serving as secretary for several years. **R. Gupta (Gill) Ervin**, who left the company in 1944 to join Republic Aviation Corp., as a purchasing and production executive, succeeds **James E. Robertson** as material manager of the Material division of Kellogg.

**Col. Leigh C. Parker**, former general traffic manager and vice president of Delta Air Lines, has received the Legion of Merit for his "outstanding contributions" in the Army Air Transport Command. The War Department revealed that Colonel Parker has handled projects for the ATC at some of the heaviest-making events of the war, including the Cairo-Tobruk Conference.

**Mrs. Florence Kerr**, director of war public services of the Federal Works Agency has resigned to join Northwest Airlines as director, women's division, traffic promotion and public relations. Her activities with NWA will be devoted principally to stimulating interest among women as air travelers.

**Lowell Condit W. H. Skiff**, in charge of the aviation section of the public relations department, has been promoted to Commander. Widely known in the field of aviation, Condit Skiff was formerly associated with Pan American Airways.

**A. B. Walker**, who until recently

was assistant to **R. F. Beach** in the Chief Office of United Aircraft Corp., has been appointed legal staff assistant for Hamilton Standard Propellers Division.

**W. R. Miller** is the newly appointed chief industrial engineer for Consolidated Vultee Aircraft Corp.'s Taurus Division. He transferred from the Vultee Field Division.

**L. R. Basilewicz**, former operations vice chairman of the War Production Board, has been appointed to the staff of Charles E. Wilson, president of General Electric Co., as a consultant on warfaring and manufacturing. Basilewicz assumes the duties of **N. R. Hays**, recently retired vice president, who for many years has been responsible for the operations of G-E affiliated companies.

**Dr. Howard W. Barlow** has been elected dean of the school of engineering of the U. S. Agricultural and Mechanical College of Pennsylvania. Barlow's background includes twelve years of teaching aeronautical engineering, extensive consulting as a graduate student, and the position as staff engineer for Glenn L. Martin Co. He joined the staff at the A. & M. College in 1940, coming from the aeronautical engineering department at the University of Minnesota. He is an Associate Fellow of the Institute of Aeronautical Sciences and the Royal Aeronautical Society.

**Leslie Snyder**, former associate editor of Wing Tips, house organ of Mid-Continent Airlines, Inc., has been named editor since the resignation of **Frank Gordon**, who served as director of public relations.

**Lowell Barney Capshaw** has been assigned to the Navy Department as human officer for the Naval Air Transport Service attached to the Deputy Commander Naval Operations, Air, Public Relations. Lieutenant Capshaw was aviation specialist for Collins magazine before joining the Navy and has been on the staff of the National Aeronautics Committee for ten years. He was previously in the public relations department of Transcontinental and Western Air, Inc., and Curtiss-Wright Corp. A pilot for 18 years, he was also a Quat Birdman.



### NAMED TO SALES POST:

**Kenneth E. Benson**, whose appointment as sales engineer for Communications Co., Inc. and Rex Bennett, Inc., Fla., was announced in last week's issue of AVIATION NEWS, will try to ascertain the post-war radio equipment needs of the airline and aircraft industry. Benson has had practical aviation experience since 1920, serving with American International Airways, Inc., and in the operations and traffic departments of National Airlines and Pan American Airways. He has been chairman of the Aviation Committees of the U. S. Junior Chamber of Commerce and the Florida Chamber of Commerce.

**B. Allison Gillies** has resigned as vice president of Grumman Aircraft Engineering Corp. and will devote himself to consulting engineering work.

**J. Antonio Zaldano** (photo), formerly material sales manager for Pan American Airways in Rio de Janeiro, has been appointed division sales manager of the Latin American division of Pan American World Airways. During his fifteen years with the airline, Zaldano has assisted in establishing air express systems for PAA and Panagra, and at one time was named to Colombia to establish a traffic department for Aerovias Nacionales de Colombia, PAA affiliate. Replacing him in Rio is **Mauro J. Martinez**, former express mail manager for the division. In his new position Zaldano assumes charge of regional sales managers in the Central American, Caribbean and South American regions.



**Felger Albhorn** (photo), operations Superintendent of Pan American



World Airways Latin American Division in Miami, has been promoted to assistant operations manager at Rio de Janeiro. He has been with the company since 1940, serving as airport manager in Honolulu, at Carlson Island in the South Pacific, and later at New Orleans. New Orleans in 1942, he came to Miami as section superintendent with Pan American Air Lines, and later was assistant operations manager of the Eastern Division. In his present position, Albhorn will have charge of all PAA operations in Brazil, Argentina, Uruguay, and Paraguay. He also will be technical adviser to "Petro de Brasil" refineries. Albhorn replaces **Fritz M. Blaser**, who is returning to Miami for reassignment.

**C. E. Smith**, who for the past twenty-five years has been associated with Haskelite Manufacturing Corp., has resigned. He operates the C. E. Smith Co., Inc., which will handle plywood, veneers and laminated products. The company will have its headquarters at New York City. Smith has been a member of Haskelite for the last eleven years.

**Oliver J. Gade, Jr.**, vice president of General Airways Systems, Inc., and specialist in the aero dynamic field, died at Albuquerque, N. M. A veteran of the first world war, he was a lieutenant with Captain Eddie Rickenbacker's "Hot in the Sky" squadron.

**Ray Shuman** has been appointed director of public relations for Commonwealth Aircraft, Inc., in which capacity he will coordinate a public relations program for the concern. Shuman's office is at the company's Kansas City plant, producer of C-47 gliders.

**Charles A. Aaron** has retired as president of Avco Controls, Inc., Chicago, and **Calvin Mertes**, formerly vice president, has been elected president and general manager.

**W. H. Fawcett** has resigned as a vice president of Packard Motor Car Co. to go into business for himself. With Packard since 1934, for the past three years he had been assigned to

special liaison work between the company and the Army Air Force.

**William Knight**, an inspection methods engineer in the Propeller Division of Curtiss-Wright Corp., Caldwell, N. J., and nationally known writer on aeronautics, died recently at the age of sixty-four.

**Col. Walter G. Rasm** has been appointed acting chief of the Quality Control Section in the Procurement Division of the Air Technical Service Command at Wright Field, Dayton. His assignment follows the appointment of **Col. Everett E. Rasmussen** as acting head of the Procurement Division.

**Lieut. Col. Henry Fayner**, special information officer for the Air Service Command until its merger with the Air Technical Command, has been placed on inactive status and is now in the Washington staff of Nunnally magazine. Fayner is a veteran of World War I, a widely known aviator and was in Government service for a short time before joining the AAF.

**E. G. Ervin, Jr.**, has joined Kellott Aircraft Corp. as material director in charge of all procurement, material control and stores activities. Formerly, Ervin was manager of Republic Aviation Corp.'s Knoxville, Ind., Modification Center.

**Dana Swartzell**, formerly of the War Production Board at Washington, has been named supervisor of Northwest Airlines' new central statistical office.

**Harold F. Blackman** has been appointed manager of TWA's Washington, D. C. Division, succeeding **Clifford Munkley**, who is being transferred to the line's Kansas City Division. Blackman, who has been born here, has been based in Washington with the TWA Military Division since July, 1945, when he took charge of the operations treatment within the Air Transport Command "Biscuits" section. He is succeeded as assistant manager by **G. Forbes**, who joined **Ambassador Joseph H. Dwyer** on his mission to Moscow last year.

**John A. Strath**, western region cargo traffic manager for American Airlines, is the newly elected secretary of the Foreign Trade Association of Southern California. He had served as a member of the board of directors of the trade group during the past year and a half.

**D. D. McKeown**, formerly director of training for Cal-Aero Technical Institute, has been named sales manager of Grand Central Airport Co., Glendale, Calif., operated by **Maj. C. C. Mueley**, **W. W. Hildebrand**, until recently resident manager of Cal-Aero Flight Academy at Ontario, Calif., has been made assistant sales manager.

**John M. Lockhart** (photo), former secretary-treasurer of TWA, has been elected executive vice-president of TACA Airways. Lockhart, who is both an attorney and a certified public accountant, joined TWA in July, 1941, as assistant to the treasurer. Prior to that time he had extensive experience in finance, accounting and management engineering. **Don R. Kiskadee** has been appointed vice president, transportation, and will have charge of all TACA operations in the Central and South American field. **Edmund J. Sweeney**, formerly a staff superintendent of TWA, entered into transportation with the company in 1941. **Erle M. Goodale** has been promoted from assistant treasurer to treasurer.

**Conrad Paul Richter**, formerly vice president of Transcontinental & Western Air, Inc., has been promoted to captain, and designated office in charge, Naval Air Transport Service.

## TELLING THE WORLD

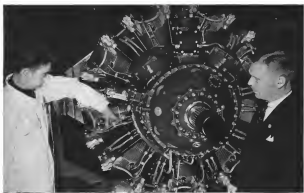
• **Willis-Overland Motors, Inc.**, Toledo, builders of the famous "Jeep," has appointed **W. A. Bruno** and **Augustine M. Heidecker**, Platts, New York City, as public relations counsel for the company, succeeding **Ward M. Crowley**, chairman of the board.

• **Boeing Aircraft Division** of General Motors Corp. has published a directory and printed 156-page History of Eastern Aircraft, dedicated to its employees who made possible the achievement of the first 100,000 production of Avenger torpedo bombers and Wildcat fighter planes.

• A new booklet entitled "Some Facts About the B-29 Superfortress Aircraft and the Aircraft Company of America" has recently been issued by the Aircraft Co. of America. It contains an outline of rotary wing developments made by the company, its history and snapshots as well as a pictorial record of every rotary wing ship, dating back as far as Cirro's first practical aircraft that flew at Madrid in 1933.

Also included in this booklet is a summary of the licensing arrangements and engineering services which the Aircraft Co. offers to responsible manufacturers interested in the design and development of helicopters or other rotary wing types. A limited number of copies of the booklet are available for executives and engineering personnel at the airline field, at Aircraft Co. of America, Willow Grove, Pa.

• **Henry Palmer & Co.** has named a consultant on Construction, Maintenance and Repairing of Aircraft Instruments, which instrument products may obtain by writing to 22 St. Washburn Ave., Chicago 5, Ill.



**MECHANIC: "Great leads, Pete... we almost never replace one!"**

**FOREMAN: "Nothing unusual, Joe... they're Titeflex Unimold leads!"**

In a remarkably short period of time, engineers and maintenance men have come to appreciate the outstanding performance delivered by Titeflex Unimold aviation leads. Introduced by Titeflex less than two years ago, today you'll find them on, among others, the Pratt & Whitney 2000, 1850, and E-2800 series engines that power the C-47 Douglas Skyliner, Douglas C-47 "the workhorse of the Army," P-51 Mustang, Consolidated Catalina, Consolidated B-24 Liberator (Army Version), Chance-Vought Corsair, Grumman Hellcat, Republic P-47 Thunderbolt, Northrop P-61 Black Widow and many others.

The reason this Unimold has won you can be traced to the sound, foolproof engineering that went into the development of the Unimold manufacturing process. By adding the unique elements of the lead separately... Titeflex engineers produce an assembly offering the very best combined of electrical characteristics in combination with standard conductors, electrical continuity and low resistance in one unit. Each assembly is subjected to thorough X-ray and electrical in-

spection tests before being shipped. Then it is made absolutely certain that the conductor is molded in the precise contour of the insulating compound and that there will be no electrical lead that will not last eternally as a service.

Titeflex Unimold performs equally well in auxiliary applications, and many of them are being used with gasoline-driven generators and gasoline aircraft engines. Titeflex engineers can make any combination of any standard gauges or other standard problems. A letter will bring you details.

THEM, INC. • 500 THUNDERBOLT AVE., NEWARK 5, N. J.



## Sales Feature Aviation Company Officials' Dealings in Own Stocks

Reports on SEC show bulk of trading by officers and directors of manufacturing firms was on selling side; airline shares bought.

Transactions in aviation stocks during November, 1945, by "insiders" were confined mostly to the aircraft manufacturing group, with the bulk of the trading on the selling side.

Reports made public by the Securities and Exchange Commission show that the most sizable transactions among the manufacturers took place by officers and directors of Beech Aircraft Corp.

Walter H. Beech, president and chairman of the Board, sold 3,300 shares of the company's common stock, having current market value of around \$51,338. At the close of November, Mr. Beech held 44,328 shares of the common stock, with a present market value in excess of \$1,206,000. Charles C. Yankee, vice president and general counsel, disposed of 2,000 shares of the common stock, valued currently at about \$58,500. His holdings at the close of the month consisted of 7,030 shares. W. H. Beech, Jr., president, sold 350 shares, leaving him a balance of 8,840 shares.

**Bell Aircraft**—Another sizable transaction was the sale of 1,000 shares of Bell Aircraft Corp. common stock by Ray P. Whitman, first vice president. At prevailing market prices, Mr. Whitman's sale was around \$14,500. His holdings at the end of the month amounted to 4,233 shares.

**Fairchild**—In eight days' transactions during November, Sherman M. Fairchild, chairman of the board and principal stockholder of Fairchild Engine & Airplane Corp., sold 2,285 shares of the company's common, having a current market value of \$6,300. Mr. Fairchild's holdings in the company totaled 128,513 shares at the end of the month, which, at present market prices, have a value of \$875,430. Another 28,100 common are held by Nide Land Corp., an intermediary, according to reports filed by Mr. Fairchild.

**Solar**—Edmond T. Price, president and general manager of Solar Aircraft Co., purchased 680 shares of the company's common, increasing his ownership to 30,329 shares. He also owns 308 shares of the Preferred A stock. Jack L. Outman, an official of Solar, bought 25 shares of the Preferred A stock. His holdings at the close of the month consisted of 223 shares of the Preferred A and 1,000 shares of common. L. D. Newman, another official, sold 400 shares of the common, which represented his entire holdings of that class of stock. He still held 156 shares of the Preferred A at the end of the month.

**Jacobson**—C. T. Ladangine, director of Jacobson Aircraft Engine Co., sold 548 shares through a Trust, leaving 1,558 shares in the Trust at the end of the month. Sale of 300 shares were reported by J. Sanford Seltus, a director of Jacobson. His holdings at the close of November amounted to 483 shares.

**Piper**—J. E. Swan, director of Piper Aircraft Corp., reported sale of 2,000 common during November, 1,500 shares in October and 3,000 shares in September. His holdings at the close of November consisted of 42,283 shares. Max Bookle, assistant secretary, sold all of his common shares, consisting of 48. He still held 800 vis. for common stock at the end of November.

Other transactions among the manufacturing group included sale of 300 shares of North American Aviation, Inc., capital stock by Henry B. DuPont, a director; purchase of 160 shares of Bendix Aviation Corp. common stock by George A. Staples, a director, sale of 1,000 shares of Brewster Aeronautical Corporation stock by James Werks, director and principal stockholder, purchase through Trusts of 500 shares of Republic Aviation Corp. common stock by Robert L. Carlson, a director.

**Equipment**—Among the equipment companies, a gift of 158 shares of Aero Equipment Corp. common stock was reported by J. C. Marley, president, director and principal stockholder, while the sale of 488 shares of Air Associates, Inc., common stock was disclosed by George B. Past, a director.

Western Air Lines, Inc., featured the air transport group with purchase of 1,588 common by Thomas Wolfe, vice president. At current market prices, Mr. Wolfe's purchase had a value of \$86,315. His ownership in Western Air at the end of November consisted of 6,588 shares.

Seely V. Hall, an official of United Air Lines, Inc., reported purchase of 10 shares of common.

## Bendix Fund Cut By Renegotiations

Contingency funds of Bendix Aviation Corp. have been reduced by \$2,469,045 in the compliance of renegotiation of war contracts for the year ending Sept. 30, 1945, according to Ernest R. Beech, president, who said the corporation had set aside \$4,000,000 for a 1945 renegotiation fund as the result of an oral agreement with representatives of the AAF Price Adjustment Board.

He added that officers of the corporation were assured that, while the agreement had been received the approval of only one member of the Board, it would be approved by the entire Board and executed and delivered in due season.

Late this year, Beech reported, the corporation was informed that the agreement had not been approved and a refund of \$93,263,459, instead of \$4,000,000 was requested. The Bendix Board, at a meeting in November, "reluctantly determined" to comply rather than resort to litigation.

**PCA's** net profit for the first 10 months of 1945 amounted to \$467,045, compared with \$271,245 for the same period in 1943. The loss had an average of 14 pence in service during most of '44 at an expense only 6 for a part of 1943.

**Northwest Airlines'** operating statistics for November disclosed the carrier handled 136,298.916 pound-miles of express, a \$5,756,817 pound-mile increase over the November, 1944, total of \$4,664,408. Mail pound-miles for the month was 414,250,421, more than 41,800,000 pound-miles than were flown in November, 1943.

## These pills help cure the high-octane headache



This is a molecule of ordinary gasoline. Like any gasoline it will burn, but this arrangement of atoms causes severe detonating in high-compression aircraft engines.



Here is how it is used: Ordinary gasoline, vaporized, goes into a chamber filled with millions of these little catalyst pills. When the vapor touches the catalyst—



in molecules are split open and the atoms arranged in a new pattern. Our scientists devoted years of research to finding the catalyst that would accomplish this feat.



The most plentiful ordinary gasoline can be reamed into high-octane aviation fuel with hydrogen and carbon atoms rearranged to form a different kind of molecule.



This is how the molecule looks after it has been reformed by the catalyst. Standard scientists have made it so denaturing. It is new stuff for aircraft engines.



The new catalyst developed by Standard of California does the trick. A catalyst causes a change in gasoline but does not steadily enter into the new product.



Now, when every grain of aviation fuel is precision, we're making thousands of additional barrels—thanks to another triumph of Standard aviation research.

STANDARD OF CALIFORNIA





## CAB Asks Power to Restrict Airline Schedules, Equipment

Report to Senate Commerce Committee declares new and broadened philosophy of carrier certification is necessary if sound development of air transportation after war is not to be interfered with.

Civil Aeronautics Board has asked the new 78th Congress for power to restrict airline schedules and equipment on the grounds that this new and broadened philosophy of carrier certification is necessary if the sound development of the air transportation system after the war is not to be interfered with.

CAB's observations were made in a report to the Senate Commerce Committee, presenting the Board's views on Senator Pat McCarran's bill to amend the Civil Aeronautics Act. Submitted a few days before adjournment of the 78th Congress, they were passed along to Senator McCarran by Senator Joseph W. Bailey, chairman of the Committee. Since McCarran's legislation was slated

for reintroduction in the early days of the new Congress, they still are extremely pertinent.

**Chosen Instrument Expedient.**—The President's opposition to a "chosen instrument" operation in post-war international air transportation, reflected in statements by various executive departments, is placed on the record in the report, which deals with both domestic and foreign phases of aviation. The Board points out that the views presented, with one exception, do not necessarily those of the President. That exception is CAB's opposition to the All-American Flag Line McCarran proposal.

Generally the Board's comments on domestic aspects of the legislation are favorable. Several as-

sumptions and some changes are suggested, however. McCarran, pleased with CAB's attitude, states he is prepared to go along with most of the Board's recommendations on the domestic phase and will embody them in new legislative proposals.

**May Reintroduce Proposal.**—Disavowing from his advocacy of a single instrument, he planned to reintroduce his Flag Line proposal as a separate measure, with a few minor changes. Suggestion of schedule and equipment was confined to apply domestically.

The Board recommends that such authority be given whatever federal regulatory agency is set up. Existing law prevents CAB from placing restrictions on "the right of an air carrier to add to or change schedule, equipment, accommodations, and facilities for performing an authorized transportation and service as the development of the business and demands of the public shall require." Thus, the Board believes, should be revoked, since it leaves only the option of no service or unlimited service. Thus, the Board says, it would be to deny service in a case which might warrant limited service.

**Competition.**—Addition of unrestricted service by a large transcontinental carrier to a city already receiving scheduled service from a small carrier, for example,

## CARRYING THE LOAD

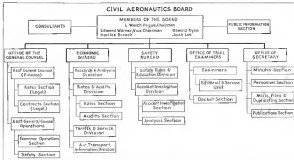


The Douglas A-26 Invaders are helping to carry the fight to the enemy. ☐ Beechcrafts are building complete wing assemblies, including engine nacelles and flaps, for the deadly A-26; in addition to the production of Beechcrafts for our Armed Services and those of our Allies. ☐ Beechcrafts are carrying a greater War Production load than ever before, but are proud to make this worthwhile extra contribution to early Victory.

☐ They ask the indulgence of prospective peacetime Beechcraft customers for their complete preoccupation with production for Victory. ☐ To the thousands of Beechcrafts in the Armed Services, and to all other service men and women everywhere, they send greetings and repledge themselves to do everything and anything within their power to bring Victory at the earliest possible moment.

# Beech Aircraft

CORPORATION  
BEECHCRAFT ARE DOING THEIR PART  
WICHITA, KANSAS, U.S.A.



### CAB ORGANIZATION PLAN:

The chart above, representing the functional divisions of the Civil Aeronautics Board, was prepared for use by the U. S. Delegation to the International

Civil Aviation Conference which closed at Chicago last month. It is believed to be the first diagrammatic plan of the various CAB sub-divisions.



serried a realization on the part of the company that surface carriers had very little chance of surpassing CAB's highly restrictive interpretation of these clauses in the Civil Aeronautics Act relating to surface carrier participation in air transport. Others saw the company's decision as a strategic move integrated with a larger plan to obtain favorable legislation in the near future.

Airline reaction could not help but be favorable. The removal of United Fruit from the Latin American case probably will have the effect of weakening the basis of other standing objections, thereby by reducing the proceeding to a contest among airlines.

## TWA and C & S Ask Interchange OK

Interline agreement proposed to provide through plane service between New York and New Orleans.

Trend toward equipment interchange—dismissible in the thinking of many airline executives for some time—took concrete form last month when Transcontinental & Western Air and Chicago and Southern Air Lines asked Civil Aeronautics Board approval of an interline agreement to provide through plane service between New York and New Orleans.

Under the joint agreement, signed by TWA's President Jack Frye, and C & S's Carleton Purfuss, planes will be flown over TWA's system from New York, Philadelphia, Harrisburg and Pittsburgh to Indianapolis, and thence over C & S routes to Memphis, Shreveport, Little Rock, and Houston, and to New Orleans via Jackson from Memphis.

► **Competition for Eastern**—At least one effect of the proposal will be to establish an alternate competitive route to Eastern Air Lines system between New York and Boston and cities on the Gulf Coast.

Some Washington sources see the TWA-C & S agreement as the beginning of a series of similar interline arrangements between the transcontinental and regional systems. At the airline map of the United States grows more complex, they point out, new route grants to established carriers probably will become more difficult to justify. Best prospects for expanded business may be found in

equipment interchanges such as that worked out between TWA and C & S, rather than in efforts to obtain new routes.

► **UAL Against Interchange**—United Air Lines is the only major carrier which has taken a stand against interchange. The interchange formerly worked between UAL and Western Air Lines at Salt Lake City, United claims, was quite unsatisfactory. Its refusal to undertake a new agreement with Western at the latter's new Denver terminal may easily lead to Western's seeking a similar arrangement with another carrier, perhaps Continental, should its application for a Chicago extension be granted.

The traveling public is certain to benefit for many widespread increase in airline equipment interchange. Through plane service, responsible between specialists on the present airline system, seems to demand some flexibility in the use of equipment such as that practiced by railroads. The necessity of changing planes, and the desirability of changing plane-to-plane cargo transfer also argue for more interchange.

Although the agreement between the two carriers was reached before CAB member Pogue and Warner made their recent statements on merger and interchange, the views they expressed in their speeches on the Chicago-New York case lead to the conclusion that CAB will rule favorably to the TWA-C & S application for approval. The industry is certain to follow CAB's action with great interest. Chief objection probably will be Eastern Air Lines, whose system faces possible traffic diversion because the interchange plan becomes a working fact.

## Atlantic Schedule Resumed by PAA

Pan American Airways Clippers resumed scheduled commercial operations over the line's perturbed trans-Atlantic route Jan. 3 on termination of the carrier's Atlantic contract operation with the Naval Air Transport Service. The service will provide service to Bermuda and the Caribbean passengers who can meet the State Department's passport requirements and the Navy's priority control, the latter almost certain to be strict.

Resumption of commercial aviation brought forward action from the Civil Aeronautics Board in the form of an order instituting a

proceeding to fix rates of mail compensation for the European operations. No show clause order was served on the carrier inasmuch as no rate of mail pay is currently in effect.

► **New Data Sought**—As 1943 was the last year for which commercial operating statistics for the Atlantic routes are available, the Board's decision on a mail rule will be based upon data gathered between the beginning of January and such time as the case reaches the stage of decision.

Schedules for the new commercial service will not be published. Central, should its application based on the decision of the State and Navy Departments that the European terminals served by PAA are unacceptably close to combat areas.

## Air Sickness Rise Linked to War Ills

Major contributions toward post-war passenger comfort and reduction of air sickness should result from intensified research being conducted by United Air Lines in its hospitalization of wounded men physically depleted war veterans.

The return of increasing numbers of war wounded may be expected to increase materially the incidence of air sickness on air routes. The company has urged flight crews to use all known passenger comfort procedures, and a careful study of all air sickness cases is being made by Dr. Arnold L. Tuttle, the airline's medical director.

► **Food, Ventilation Watched**—Stewards have been instructed to watch cabin heat and ventilation closely and flight crews have been requested to avoid flight at high altitudes whenever lower ones are as safe and as comfortable. Crews also have been cautioned to avoid sharp turns and turns, to apply brakes gently in landing and to make turns on the ground slowly.

Lowered resistance of numerous military passengers is considered the cause of a noticeable increase in cases of air sickness during the past twelve months. Air sickness incidence had been reduced to 1 per 1000 passengers carried in 1942.

The company's modest records show the following incidence for 1943 through October: January 1.8; February 2.3; March 3.2; April 4.1; May 9.4; June 9.7; July 8.4,



# The Pilot's Perch

by Major Al Williams, AUSA, "TATTERED WING TIPS"  
Gulf Aviation Products Manager, Gulf Ship, Pittsburgh 30, Pa.

## Hey! Wait a minute!

At the time you're reading, in Little Known Facts About Well Known Plans, don't know be more Perch Pilots than you do in the Service! We're going to commission a whole squadron of you flies this month—but we want you from now on it's going to be a lot tougher.

From now on, your Little Known Fact is going to have to be really hot to get you a commission as a Perch Pilot (overman rank). It'll have to be so astounding and unusual that we go for it at least two days. If they're in good, you can still become a Perch Pilot (or) by sending them to the above address. And you can still get a commission to Senior Pilot by sending five good enough to print. Facts!

## L.K.F.A.W.K.P. Dept.

"The Mustang is one of the few Modern Bombers who could fly on one engine!" (That's what he said) Perch-Airline, Quebec, Can.

"The longest airplane ever to fly from Europe to America was the German Dornier Do-24, but it had American engines (P-40) and an American pilot." Maynard Frank, Laredo, Texas.

The Albatross is an additional machine step which enables additional cabin-making and design forming hydrocarbon from Gulp!.

"A four-bladed propeller with counter-rotating is more efficient than two, three, or four-bladed propellers." B. F. McComb, New Auburn Airport, Auburn, Ind.



"The B-40 (no longer in operation) was a B-17 which could carry even more in less of a bomb load. It was used to escort and protect bomber formations." James Edgar, Little Valley, N. Y.

"The 10,000 ft. weight of the B-29 rests on three only 8" thick air able wheels." Howard Coleman, GUP Communications Officer, Santa Monica, Cal.

"Perch Pilots using anything other than Gulf Aviation Products will be demoted, shot, kicked, mugged, and

steered at!" Hester, the Only Boss, Pittsburgh 30, Pennsylvania.

"The B-29 is the first plane to have been built by the government on such a scale." John W. Wells, co Director, Lincoln Branch, Home Fleet Office, Rome, New York.

The P-50 A (jet propelled) appears so steadily that a witness had to be needed on the inaccurate paid to keep accurate records from tracking." Perry Young, Buffalo, Texas.

"Any airplane engine operates smoothly when it's in proper adjustment and left of the Gulf Aviation Gasoline." The Gallows, ex Major Al Williams.



"Two Shinto 'Flying Irons' actually flew the bomber 'Hump.' Some pilots were so narrow they had to fly single file!" Edward Bell, Jr., to Chester, Tex., Newton Green, Miss.

"If every gas on a B-29 were fired continuously for 1 minute, a total of 600 lbs. of ammunition would be expended." A. H. Edwards Kaplan, Boston 1, BMA AAFB, Pease Air Field, Vt.

Over 15,000 gallons of fuel ships have been tested on the world's latest

planes! A C. William Bell, Jr., Group E-Wing 1, Chase ASD, SAGCC—Perch, San Antonio, Tex.

"A good engine and good oil are poor partners. A good engine and poor oil are much better. But a good engine and Gulf Aviation Products are perfect partners! And Gulf Aviation will keep the engine good and perfect!"

"No 100 gallon capacity needed for fuel! They are all instantly available!" PFC Walter Glines, Chaplain's Dept., Sioux Falls, South Dakota.



"Weekend B-29's are sent to control towers in some parts of the Pacific!" Clifford Gault, Jr., 1175 East Condit Street, Denver, Ill.

"Expanding plans no longer fit for combat duty (like the one above) may cost you millions of dollars for a single squadron in a single month! So lay this card. War Bond! Only! Use San, Washington, D. C.

Gulf Oil Corporation and Gulf Refining Company...makers of



OIL IS AMMUNITION—USE IT WISELY

Air traffic rules were during the month, and in the area, in which turbulent flying conditions due to thunder storms were pronounced.

## Bird-Designs New Bird-Impact Glass

Efforts to solve the bird-impact problem for DC-3 windshields have led Douglas Aircraft to submit its second windshield design to Air Transport Association. First one was last June.

While the Civil Aeronautics Administration has not asked revision of DC-3 windshields, importance to the problem was attached by small manufacturers who listed collision-resistant windshields as their top importance among airlines in which they think special research should be given.

**CAA Figures Sought**—ATA has asked CAA, without success, to state what the figures should be. According to the latest Douglas design, it that impact would be of an eight-pound bird at maximum level flight speed. In aircraft air-

## Foreign Only

Air Transport Command's announcement that it would begin carrying civilian foreign-paying passengers Jan. 1 was interpreted in some quarters to mean that ATC's domestic operations also were opened to civilians. Some erroneous press reports saw in the announcement a means of alleviating the severe pinch on the domestic carriers. Under terms of the Presidential order of Dec. 24, however, civilian pay passengers are being carried by ATC only on foreign routes.

western section of the technical services to the International Civil Aviation conference, CAA opened a five-pound bird at maximum level flight speed.

ATA suggested a surmounting to the final operating strength of the DC-3 standard windshield and that proposed, and urged Douglas to give further details on cost, labor and time of installation.

## TCA Operations

### Up Sharply in '44

\$1,444,000 revenue miles reported down, a gain of \$89,181 over 1943.

Trans-Canada Air Lines, seven-year-old government-operated transcontinental, flew 3,144,000 revenue miles in 1944, an increase of \$89,181 over 1943, states a year-end review of TCA operations. TCA now operates in Canada 5,294 route miles from St. John's, N. P., to Victoria, B. C. Passengers for 1944 totaled 157,500, an increase of 17,554 in the year, mail weight of 3,818,700 pounds, an increase of 92,983, and express weighed 803,260 pounds, nearly 22,000 pounds more than a year ago. Unavailability of aircraft kept these figures from being greater.

Wichita, Canada. TCA opened traffic offices at Sydney, N. S., St. John's, N. B., Moncton, N. B., and Lethbridge, Alta. Reservations control offices were opened at Edmonton, as indicated at Halifax. At Winnipeg, trained engineering and maintenance base research resulted in development of such technical developments as provision of auxiliary fuel system, and evolution of the latest power output techniques permitting more accurate determination of fuel

consumption. At Winnipeg and Montreal, military and trans-Atlantic ferry aircraft maintenance and overhaul service was provided.

**Passenger Re-employment**—Personnel increased 15 per cent during the year, most of the new recruits represented as discharged members of the armed services. TCA relied exclusively on repatriated Royal Canadian Air Force personnel in selecting candidates for its flight crew training classes.

The line has operated in the past year a trans-Atlantic service for the Canadian government with high priority passengers, freight and mail for the armed services flights to Europe. Modified trans-Atlantic bomber have been used.

While TCA's annual review included mention of concrete international post-war plans, no details were divulged. Expansion within Canada includes a modified trans-Atlantic bomber have been used.

## ATC Ticket Office Opened in New York

Army's Air Transport Command took on more of the coloration of a commercial air line last week with the opening of an ATC ticket office at 47 Vanderbilt Ave., New York City, Jan. 1. Passage, however, may not be secured by the mere purchase of a ticket, but remains under strict State Department and Army control.

Priority and traffic officers of ATC's North Atlantic wing, based in LaGuardia Field, and the wing carried more than 393,189 pounds of Christmas mail overseas to the European theater since Nov. 1. Some was stopped under the classification of cargo to speed delivery.

## Extend Pilot Ruling

Civil Aeronautics Board has extended to June 30 the expiration date of a Special Civil Air Regulation which provides for certification of assistant airline transport pilots. Under its terms, pilots with commercial licenses and statement ratings may receive tickets as assistant airline transport pilots which authorize them to serve as first pilots on cargo flights only.

The ruling is an intermediate grade between pilot and co-pilot, and is granted only to pilots serving outside the continental United States. The majority of applications under the Special CAR have been granted to Panagra pilots

## CAB Orders "Big 4" to Show Cause Why Mail Pay Should Not Be Cut

U. S. proposes to reduce airmail compensation of American, TWA, United and Eastern from 60 cents a ton-mile to 52-cent base; general investigation of air freight and express rates is begun, to include all domestic carriers and REA.

By DANIEL S. WENTZ II

In a proposal to slash mostly in half the compensation paid the Big Four airlines by the Government for carrying U. S. mail, the Civil Aeronautics Board has ordered the American, TWA, United and Eastern to show cause why each carrier's mail pay rate should not be reduced from the present level of 60 cents per ton-mile to a 52-cent rate. The four show-cause orders were accompanied by a fifth CAB document, instituting a general investigation into all phases of air freight and express rates, served on all domestic carriers plus Railway Express Agency.

The four mail rate orders constitute the threat of a major revision of the carriers' financial structures. In all cases the Board has made significant departures from its previous methods of determining mail rates on the basis of a fair return on a given carrier's total investment, with major disallowances.

**New Policy**—The new orders make it abundantly clear that the mail pay policy being evolved will be based chiefly on that portion of an airline's investment used in carrying the mails. To accomplish this, the Board will attempt to isolate this portion of the investment more accurately than it has done hitherto. The orders specifically state that the rates will not be allowed to include in their investment determinations "amounts sometimes necessary in the case of carriers whose normal revenues are not otherwise sufficient to enable them to realize a reasonable profit."

CAB bases its proposed revision of mail pay on the production that airline revenue and traffic will remain at least at present levels in some time in the future. Some sources suggest that it also may be based on the foreknowledge of additional airline plane allocations. It seems clear, in any case, that the Board has decided that its transport profits will continue high and that, under existing mail

rates, the airlines might not too much profit.

**Present Rates**—The present compensatory rate of 3 mill per pound mile (30 cents per ton mile) may be proving profitable rather than compensatory, especially in all-charge operations carrying heavy mail loads.

Executives of the lines affected by the orders are already busy planning to fight CAB's move. They probably will attempt to show that the Board's estimates of continued next-capacity airline operations fail to take into account the effect on the carriers of a sudden termination of the European war might have. Should present traffic levels suddenly

drop off, a reduction in mail pay such as that proposed by CAB might seriously disturb the present financial status of the airlines.

**Passenger Fares Affected**—It seems likely that the threatened cut in mail pay will put a brake on the airlines' plans to reduce passenger fares. United, one of the lines receiving a show-cause order, already has announced its intention to lower fares. Other lines are discussing similar moves.

In opening its investigation into express and freight rates, the Board said: "Air express and air freight are aspects of air transportation which increasingly will demand the close attention of the air carriers and government authorities alike in order that no impediments will stand in the way of their rapid and economically sound growth."

The Board has long advocated a reduction in freight and express tariffs. It welcomed the move of American Airlines in establishing tariff structures apart from and lower than that set up through Railway Express Agency's Air Express Division.



### DARNELL CASTERS

Precision-made Darnell Casters with the DOUBLE BALL-BEARING SWIVEL assure a long life of efficient, economical service

DARNELL CORP. LTD.  
LONG BEACH 4, CALIFORNIA  
40 WALKER ST. NEW YORK 13, N. Y.  
36 N. CLINTON CHICAGO 4, ILL.



### Sel-air

"MEANS ACCURACY"

ACCURACY THAT NEVER FAILS

The kind of accuracy that is found in every Sel-air aircraft tire, proven performance in every one of our latest precision flying tires is an industry for aircraft tires.

The new kind of pneumatic tire which is made with special air-tightness is guaranteed the long and accurate service that we are always delivering you first.

**Sel-air Engineering and Fabrication are Available for your Part-time Products**

On a Sel-air, you get the same precision workmanship and the complete maintenance services, complete and complete facilities and our experience in fabricating and testing the product that we are always delivering you first.

You require will have immediate attention.

**The TELEOPTIC Company**  
Sel-air 721 MARQUETTE ST. RACINE, WISCONSIN  
On Sel-air, you get the same precision workmanship and the complete maintenance services, complete and complete facilities and our experience in fabricating and testing the product that we are always delivering you first.



# Tell Congress About Aviation

A PROPOSAL of a Non-Partisan Special Commission on the reorganization of Congress offers an opportunity for aviation to seek any changes it feels are necessary in Capitol Hill legislative procedure. Aviation's various interests generally have stayed away from the offices of Congressmen and Senators. This has puzzled the Hill frequently and has been responsible for the feeling that aviation wants and needs no aid, or is not interested in what Congress does. The speaker of the Aeronautical Chamber of Commerce and the Air Transport Association, for example, usually has been that they will not be accused of lobbying.

This attitude is not complimentary to members of Congress, most of whom consider themselves business men, as well as law makers and representatives of the people. It seems to indicate that any business man is a lobbyist who calls on his Congressman or a member of a Hill committee which is concerned with legislation vital to an industry. Uniformed members of Congress cannot be expected to pass fair legislation. The number who have any knowledge of aviation and its needs is pitifully small. Many would welcome an expression of interest on the part of aviation's important people.

This means calls on the Congressmen, without need of impressive introductions from the Congressmen's close friends or without resort to other indirect methods as often followed by those who do not know that the most satisfactory way to see a Congressman is to telephone or write a note a few days in advance. There is no need for hocus-pocus and the less there is of it the more the Congressman respects his constituent.

These are primary facts to Washingtonians but they apparently are understood by few in aviation. It is hoped that the action which Congress takes will be in keeping with aviation's future requirements.

The duplication and lack of coordination between House and Senate Military and Naval Affairs Committees in handling military aviation matters is one of the first glaring inadequacies noted for scrutiny.

Lack of consistency in House and Senate arrangements for the handling of commercial aviation legislation will also be examined. In the House, commercial and civil aviation matters are lumped together with matters pertaining to railroads and domestic surface carriers in the Interstate and Foreign Commerce Committee, while separate jurisdiction is given merchant marine matters in the Merchant Marine and Fisheries Committee.

In the Senate, however, the aviation and merchant marine fields come under jurisdiction of

the Commerce Committee, while another committee, Interstate Commerce, deals with domestic surface carrier transportation.

The committee on reorganization has been limited to a period of three months. By that time it must make its recommendations to Congress. Then with introduction of proper legislation the battle against the changes will be in full swing.

It is to be hoped that aviation will take advantage of the present state of mind on Capitol Hill by making known which reforms are deemed desirable.

## Surplus Planes for Research

THE PROPOSAL that several thousand surplus airplanes be allocated for safety research tests is made by the engineering department of Aero Insurance underwriters. It would distribute them among research organizations, universities, airlines and manufacturers under a controlled program designed to get the most information in the least time.

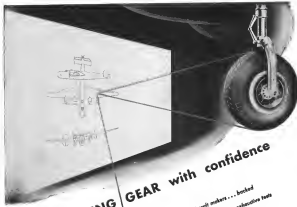
By this means, design and operational data might be uncovered which would settle controversial safety questions, provide greater safety for passengers and crews in flight or following a crash, the company believes.

"Information far more valuable than the cost of the aircraft could be determined if airplanes were deliberately crashed under controlled conditions to determine the exact nature of the fire hazard following crash, including sources of ignition, paths which fires take inside the airplane, methods for preventing fires or blocking explosions," the insurance concern points out in its news letter.

"Some say it is safer to make emergency landings with the gear down, others say it should be up. It probably varies with different types of designs. Let's find out once and for all. Some aircraft don't float very long after ditching. Let's determine why, to establish criteria for the future. What are the most efficient procedures for rescue operations? How good are emergency exits? What is the safest seating arrangement without sitting backward? These and hundreds of questions could be answered by controlled destruction of surplus airplanes."

These are practical suggestions. Evidence that government officials are considering such possibilities was reported by AVIATION NEWS several months ago, but no definite plan has materialized. Thousands of transport and combat aircraft must be destroyed as scrap. The public must be educated to expect this destruction as a national defense necessity to assure constant, maximum development of new warplanes, and of new and large high speed fighters which can be used as military transports in emergencies.

ROBERT H. WOOD



**specify LANDING GEAR with confidence**  
**... specify BENDIX**

Preferred by leading aircraft makers... backed by unparalleled facilities... proves in exhaustive tests... engineered to meet your specific requirements.

You're safe, you're sure, when you specify Bendix Landing Gear equipment, because we've made it our business to make certain it's right before it ever leaves the factory. Every Bendix Landing Gear part goes through the toughest tests science has devised. A giant 30-ton dynamometer checks the stopping power of the brakes at all landing speeds. Massive drop-testing machines insure an ample margin of safety against landing shocks. Struts are

wrenched, twisted, tortured to make sure they'll stand the gaff... make sure they'll more than measure up to all requirements.

These reasons explain why Bendix is the choice of leading aircraft manufacturers. Bendix Landing Gear is engineered to meet your specific needs... "tailor-made" to fit your weight restrictions, space limitations, performance requirements... an outstanding example of the Creative Engineering which has won Bendix leadership in so many aviation fields. "You're sure when you specify Bendix."

BENDIX LANDING GEAR... Bendix Pressurized Shock Struts, Cylinders, and Power Brake Valves are important members of

Bendix Airplane Wheel, Airplane Brakes, Hydraulic Master "Toe-Inertia" Cams... produced in our 30 Bendix plants

**Bendix** PRODUCTS DIVISION

BENDIX AVIATION CORPORATION, SOUTH BEND 26, INDIANA



The B-29

*—Official U.S. Army Air Force*

## FIRE POWER *by General Electric*

**M**ORE fire power—more accurate fire power—more electric power than in any previously built plane . . . that's part of the B-29 story. Its unique gun-fire control system and multiple gun turrets and sighting stations—developed and manufactured in G-E plants throughout the country—give the Superfortress an unparalleled striking power. The computer of this system automatically calculates the speed of enemy craft, wind drift, and other factors; the gunfire can be concentrated in the right spot—at the right time!

This fire-control system, and the system for pressurizing the cabin from the turbosuperchargers (two on each engine), as well as precision-g geared motors and other electric devices, were developed by G.E. for the B-29 during the past three years. That they are now proving their worth in actual combat is a source of pride to all the G-E men and women who worked on them. Our laboratories and extensive manufacturing facilities are at the service of the aviation industry. *General Electric Company, Schenectady 5, N. Y.*



**PRECISION PRODUCTS  
AND  
ENGINEERED SYSTEMS  
FOR AIRCRAFT**

Buy all the BONDS you can  
—and keep all you buy

**GENERAL  ELECTRIC**

674-05-1072